Appendix LL1
Redacted Section 5 Tier 2
Biological Assessment
File 3

TECHNICAL REPORT ATTACHMENT		
File 1	Transmittal	I69 Section 5 Tier 2 BA Transmittal to USFWS
	Technical Report	I-69 Section 5(South of Bloomington to SR 39 at Martinsville)Tier 2 Biological Assessment
	Appendix A	Forest Transect Data Forms
File 2	Appendix B	Preferred Alternative Atlas
	Appendix C	Bald Eagle Proximity Map
	Appendix D	Overall Impact Summary
	Appendix E	Indirect Development Land Use Analysis
	Appendix F	2004 and 2005 Roost Tree Photos
	Appendix G	I-69 Mist Netting Survey for the Indiana bat (Myotis sodalis) 2012 – Section 5 Bloomington to Martinsville
	Appendix H	Beanblossom Bottoms Nature Preserve Maternity Colony
File 3	**Appendix I**	**Lambs Creek Maternity Colony**
	Appendix J	**Overall Section 5 Mitigation Site Map with Bat Data**
	Appendix K	**Waverly Bog Site**
	Appendix L	**Berean Valley Site**
	Appendix M	**Nutter Ditch Site**
	Appendix N	**Ravinia Woods Site**
	Appendix O	**Union Site**
	Appendix P	**Big Bend Site**
	Appendix Q	**Bryant Creek Site**
	Appendix R	**Paragon Site**
	Appendix S	**Chambers Pike Site**
	Appendix T	**Canyon Site**
	Appendix U	**Stone Belt Site**
	Appendix V	**Wylie Site**
	Appendix X	**Griffith Site**
	Appendix Y	**Long Pond Site**
	Appendix Z	**Whisnand Site**
	Appendix AA	**Beanblossom Creek Site**
	Appendix BB	**Kinser Pike Site**
	Appendix CC	**Stout Creek Site**
	Appendix DD	**Victor Pike Site**
	Appendix EE	**IDNR Tree List**
	Appendix FF	**Section 5 Karst Report Glossary**
	Appendix GG	**USFWS Comments on the Section 5 Mitigation Tour Summary**

Appendix I

Lambs Creek
Maternity Colony

This appendix contains additional analysis for the Lambs Creek Maternity Colony. Please see the main text of this Tier 2 Section 5 BA for the remaining analysis on the Lambs Creek Maternity Colony. The analysis for the parameters documented in the Tier 1 BA Addendum for the original colonies was completed and is provided in this appendix for Lambs Creek Maternity Colony. Please see Appendix A in the Tier 1 BA Addendum for the West Fork (Bryant Creek) analysis.

Patch Analysis

In order to measure tree cover connectivity before and after building the proposed I-69, trees were considered connected, and therefore, one (1) functional patch, if the gap between them is 120 feet or less. Table 1 shows the total number of patches for the No Build and Build scenarios, as well as patches within five (5) size classes. It also shows the five (5) maximum patch acreages before and after the proposed construction. The combination of this information gives a description of the overall patch size distribution as well as the extent and impact of proposed fragmentation.

This colony foraging area has 88% of its tree cover in one (1) connected patch unit of 4,449 acres. The largest connected patch of forest will not be impacted by the Preferred Alternative and the areas of the two roost trees are located within this patch. After the proposed construction, the second largest patch (398 acres) will be split into two separate patches. The patch south of the alignment will consist of 112 acres and the patch to the north of the alignment will consist of 286 acres. The remaining patches in the colony will have minimal if any impacts from the preferred alternative. Figures 1 and 2 show the build and no build scenarios of the patch analysis.

Distance from Roost Trees to Nearest Water Body

There were two roost trees identified in the Lambs Creek Maternity Colony. Two primary roosts were found within this colony. Roost 768-1 is located approximately 345 feet from Lambs Creek. The second roost (768-2) is located approximately 170 feet from Lambs Creek.

Proximity to Floodplain Classes

Tree cover was quantified in three (3) classes based on the proximity to the 100-year floodplain. Classes are discussed in more detail in the BA Addendum and the footnotes in Table 1. Approximately five (5) acres tree cover from the floodplain will be directly impacted. Tree cover lost from Class 1 will be 5 acres, 0.5 acres from Class 2, and 0 acres from Class 3.

Figure 3 shows tree cover within the floodplain for the Lambs Creek Maternity Colony, Figure 4 shows tree cover in the floodplain proximity classes, and Figure 5 shows the Tier 2 Wetlands.

Table 1: Lambs Creek Maternity Colony Direct Impact Analysis			
Colony Use Area = 12,566 acres			
Tree Cover Area = 5,058 acres			
English	**NO BUILD**	**BUILD**	**LOSS**
Colony Use Area Tree Cover			
*Tree Cover (acres)	5,058	5,052	5.6
Tree Cover (% of landscape)	40%	40%	<0.01%
**Forest Core Area (acres)	2,346	2,346	0.10
Forest Core Area (% of total trees)	19%	19%	<0.01%
# of Forest Core Areas	15	15	1
***Tree Edge Area (acres)	2,712	2,706	6
Tree Edge Area (% of total trees)	54%	54%	<0.01%
Tree Cover Connectivity			
# Tree Patches (all individual polygons)	30	31	+1
Size Class >500 acres	1	1	0
Size Class 100 – 500 acres	1	2	+1
Size Class 10 – 100 acres	4	4	0
Size Class 1 – 10 acres	19	19	0
Size Class <1 acre	5	5	0
5 Largest Patch Areas (acres)	4,449	4,449	-
	398	286	-
	77	112	-
	40	77	-
	12	40	-
Tree Cover Proximity to Floodplain			
Tree Cover in the IDNR DFIRM Floodplain (acres)	641	636	5
Proximity to Floodplain Class 1^ (2 roosts) (acres)	873	868	5
Proximity to Floodplain Class 2^^ (acres)	2,832	2,831	0.5
Proximity to Floodplain Class 3^^^ (acres)	1,353	1,353	0
Tier 2 Wetlands[>]	629	624	4.67
Forested (PFO)"	305	303	1.69
Scrub/Shrub (PSS)	8	8	0
Emergent (PEM)	216	215	0.65
Ponds (PAB, PUB, PUS)	100	98	2.33
* Tree Cover – defined as all trees, including individual, fragmented groups of trees			
** Forest Core Area was limited to a threshold of 1 acre minimum			
*** Edge Area – defined as all tree cover not included in a core > 1acre			
^ Class 1 includes all areas within the IDNR DFIRM floodplain or 100 feet either side of any 1:24,000 National Hydrography Dataset (NHD) stream line			
^^ Class 2 includes all areas between the Class 1 line out to 2,600 feet from perennial streams (order 4 or higher) or 850 feet from small/intermittent streams (order 3 or lower)			
^^^ Class 3 includes all areas beyond Class 1 and Class 2			
[>] Tier 2 Wetlands-These are made from NWI wetlands outside the corridor and right-of-way. Inside the right of way and corridor, acres were calculated using field verified wetlands.			

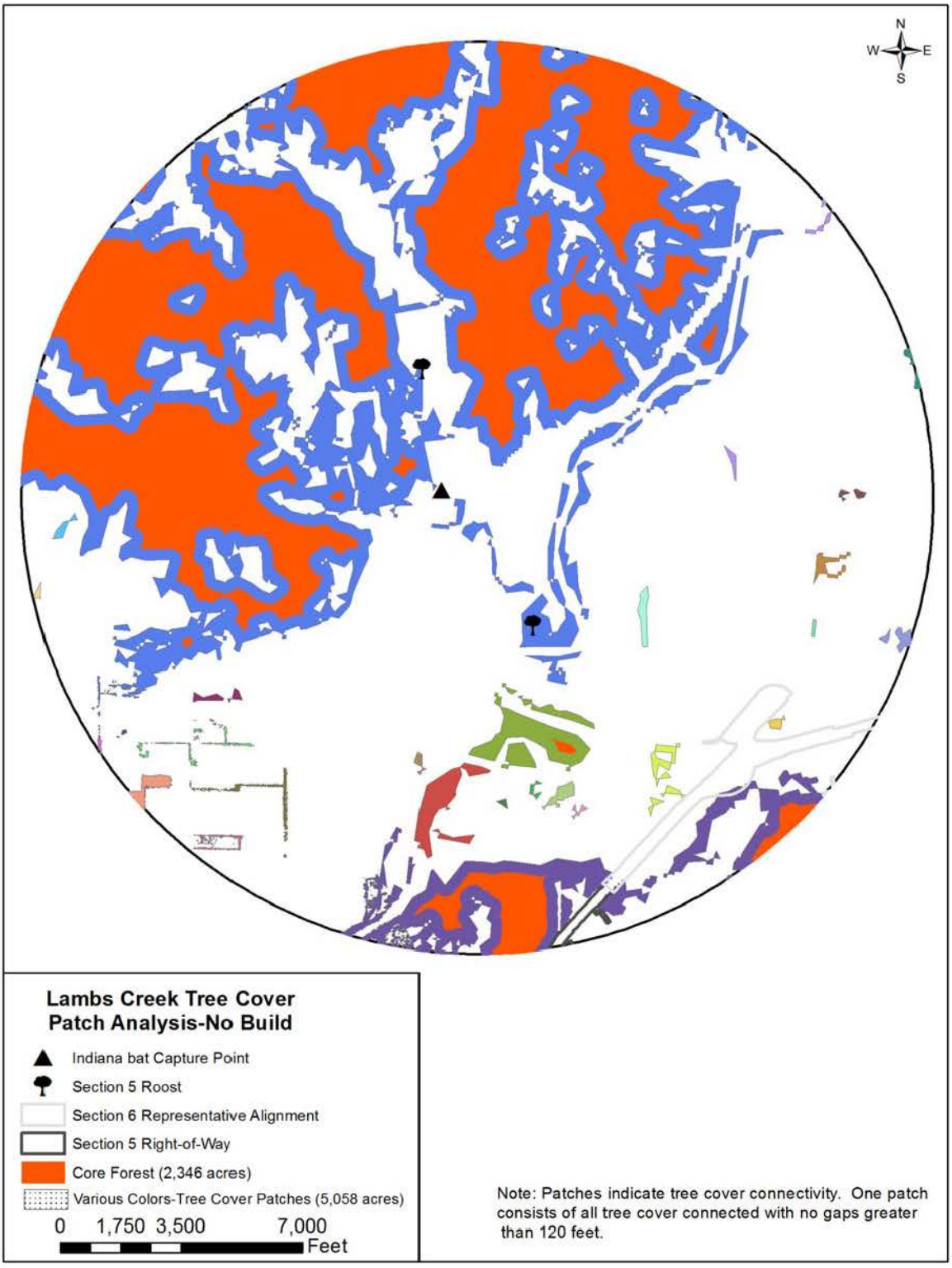


Figure 1: Tree Cover Patch Analysis-No Build

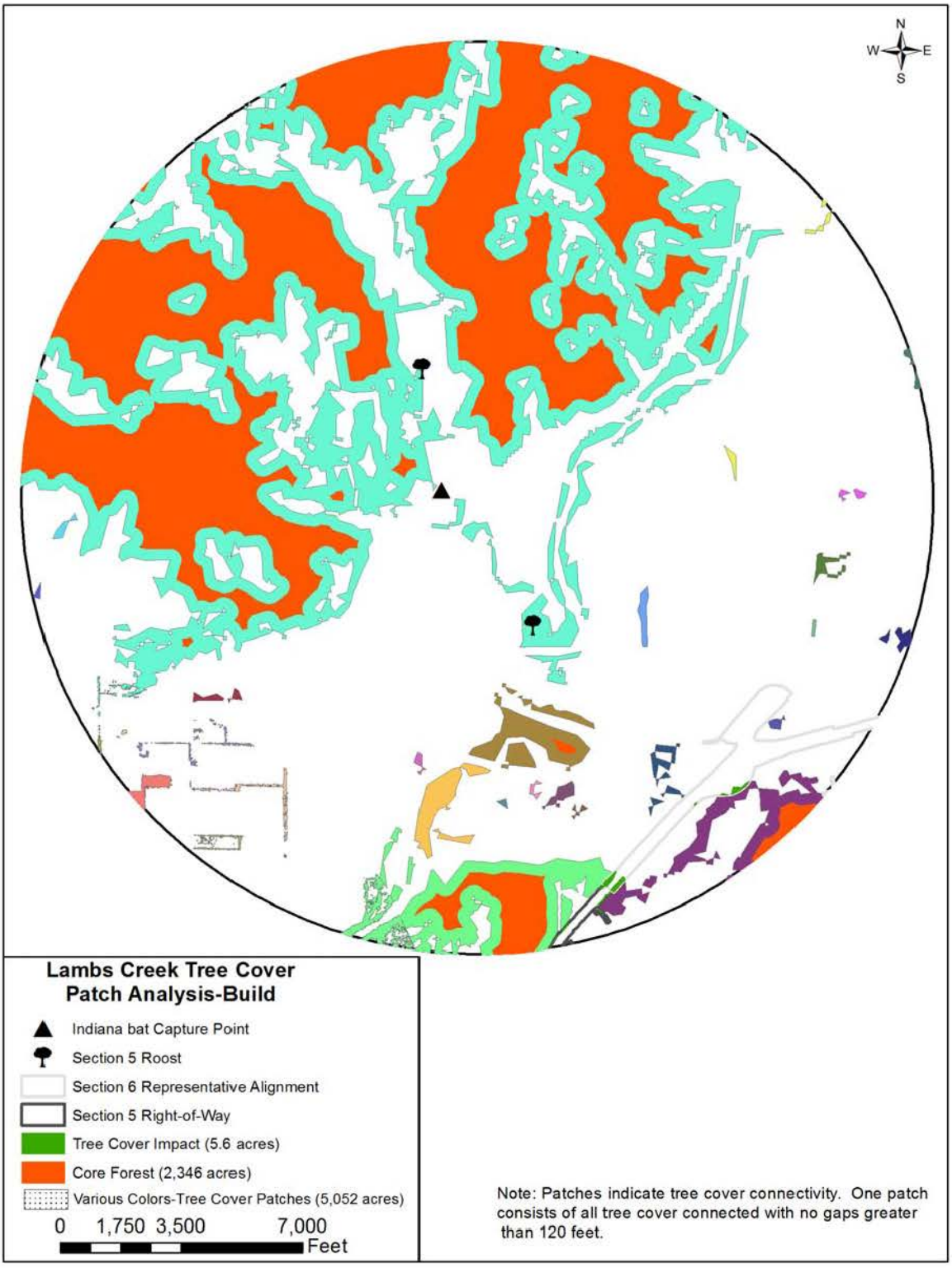


Figure 2: Tree Cover Patch Analysis- Build

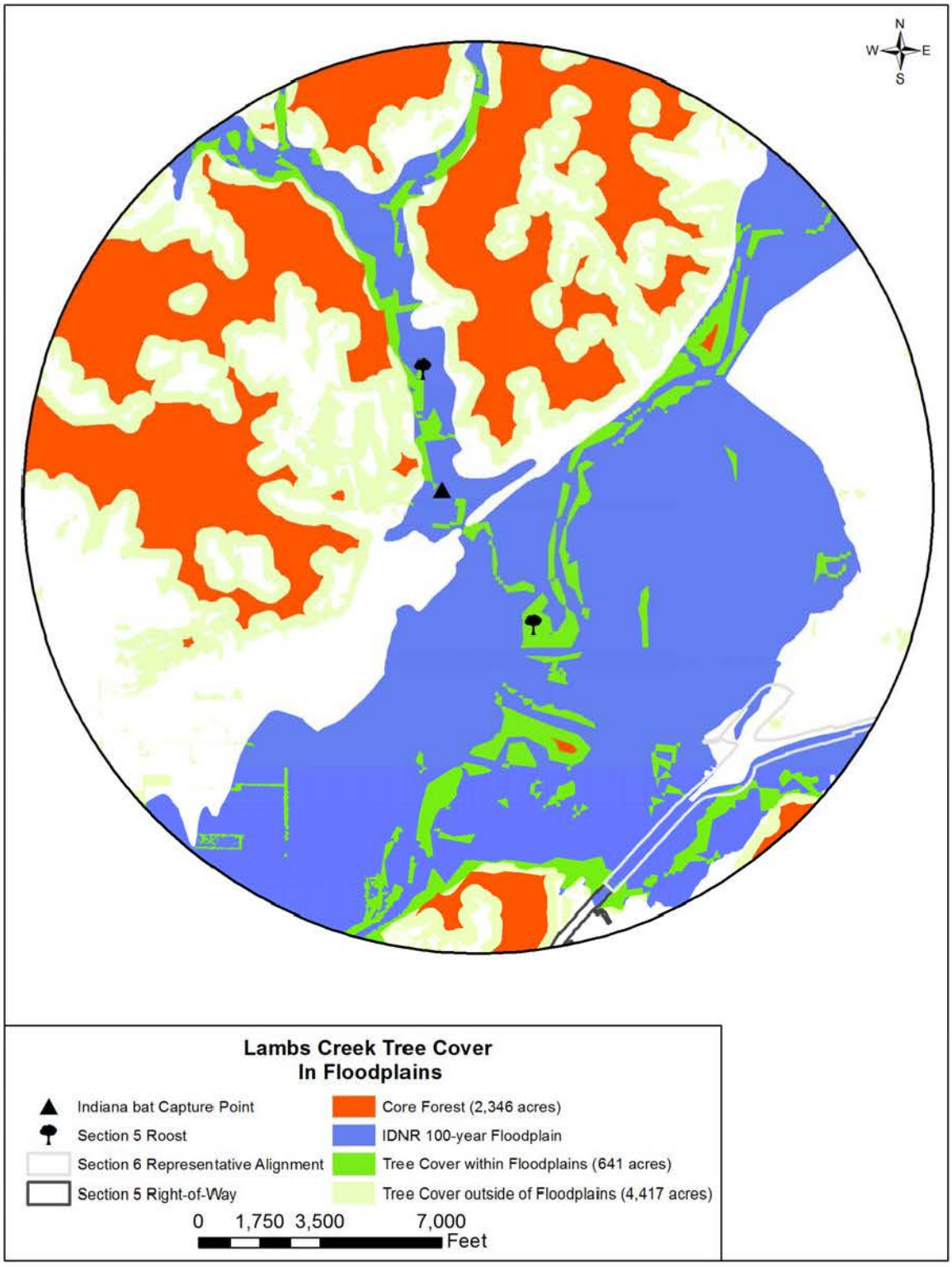


Figure 3: Tree Cover in Floodplains

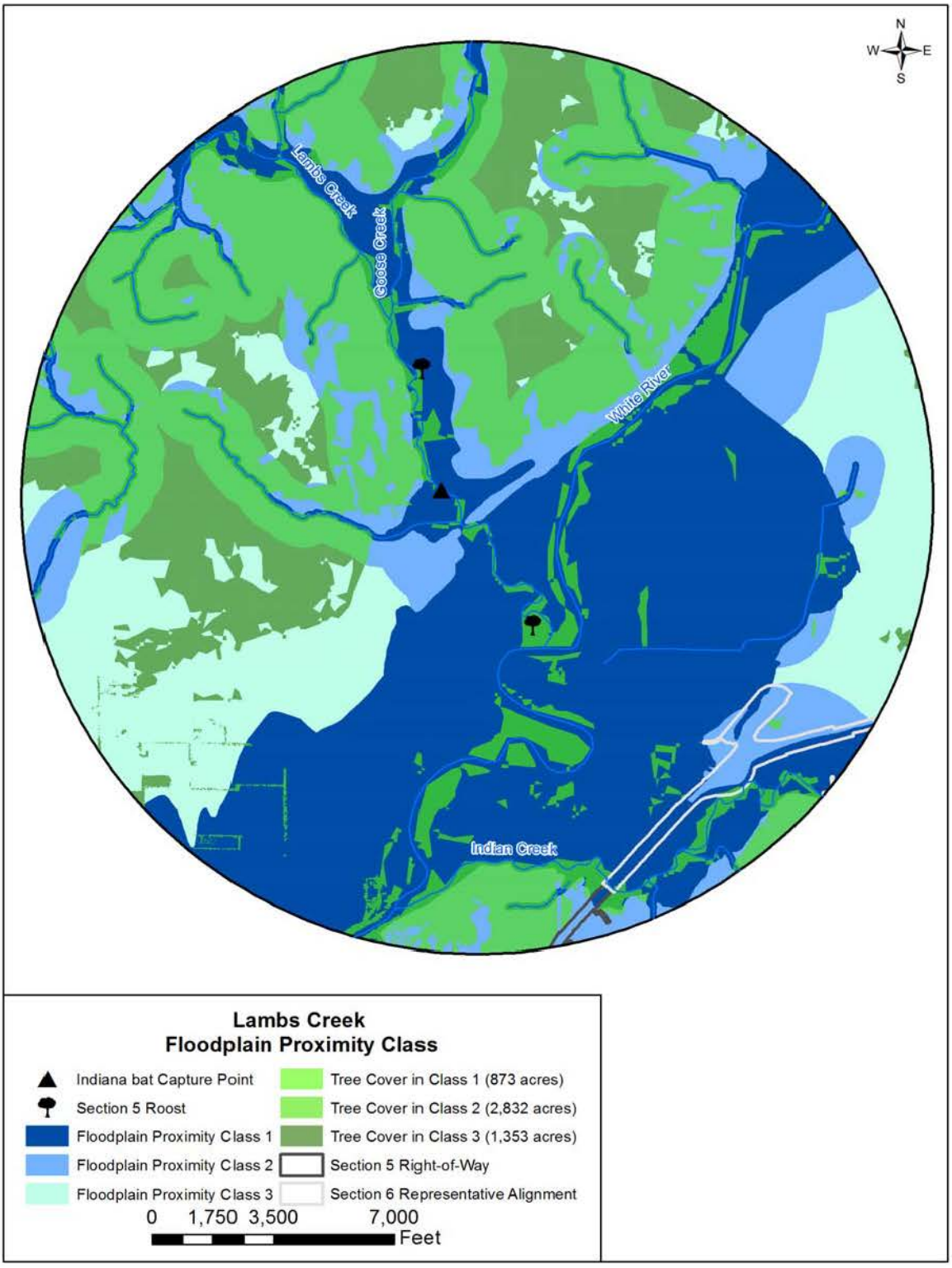


Figure 4: Floodplain Proximity

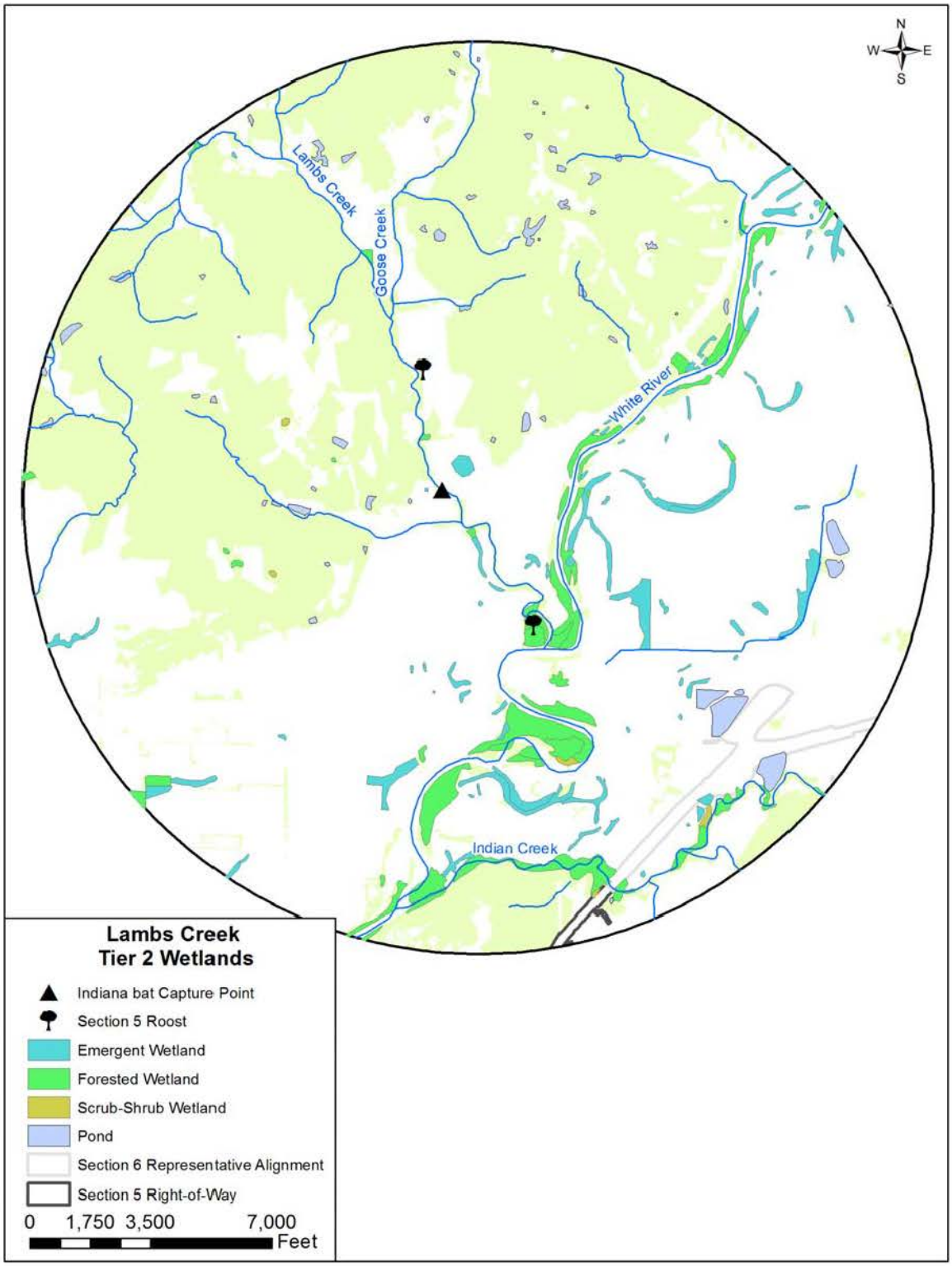
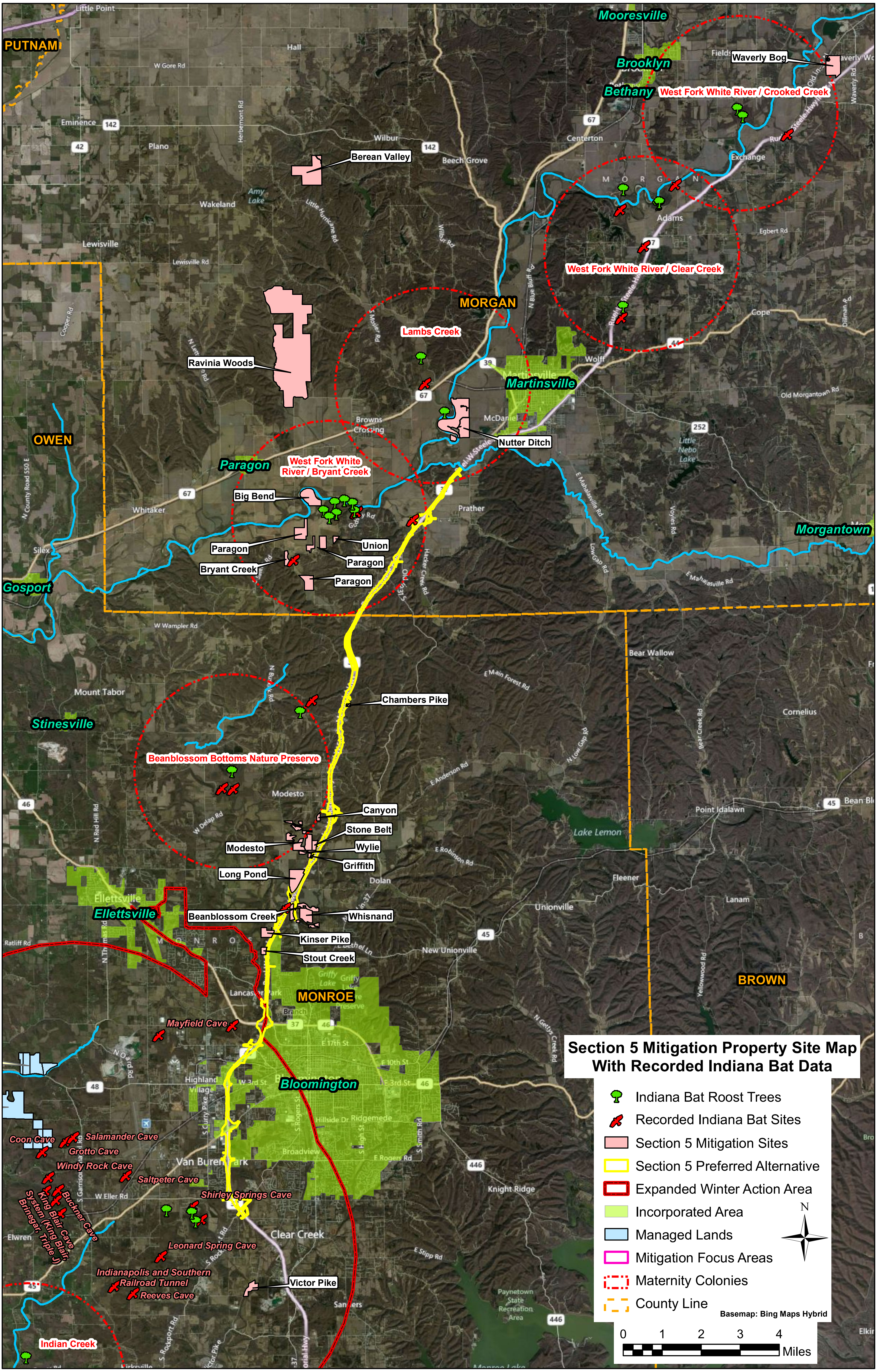


Figure 5: Tier 2 Wetlands

Appendix J

Overall Section 5 Mitigation Site Map with Bat Data


Section 5 Mitigation Property Site Map
With Recorded Indiana Bat Data
Indiana Bat Roost Trees
Recorded Indiana Bat Sites
Section 5 Mitigation Sites
Section 5 Preferred Alternative
Expanded Winter Action Area
Incorporated Area
Managed Lands
Mitigation Focus Areas
Maternity Colonies
County Line
Basemap: Bing Maps Hybrid
N
0 1 2 3 4
Miles
PUTNAM
MORGAN
OWEN
MONROE
BROWN
Mooresville
Brooklyn
Bethany
Martinsville
Paragon
Gosport
Stinesville
Ellettsville
Bloomington
Morgantown
Waverly Bog
West Fork White River / Crooked Creek
West Fork White River / Clear Creek
Berean Valley
Ravinia Woods
Lambs Creek
Nutter Ditch
West Fork White River / Bryant Creek
Big Bend
Paragon
Union
Paragon
Bryant Creek
Paragon
Chambers Pike
Beanblossom Bottoms Nature Preserve
Canyon
Stone Belt
Modesto
Wylie
Griffith
Long Pond
Beanblossom Creek
Whisnand
Kinser Pike
Stout Creek
Mayfield Cave
Coon Cave
Salamander Cave
Grotto Cave
Windy Rock Cave
Saltpeter Cave
Buckner Cave
King Blair Cave
System (King Blair, Bringegar, Triple J)
Shirley Springs Cave
Leonard Spring Cave
Indianapolis and Southern Railroad Tunnel
Reeves Cave
Victor Pike
Indian Creek

Appendix K

Waverly Bog Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Waverly Bog

Location description:

This property is located in the Upper White River 8-digit watershed. This site is located in the Crooked Creek maternity colony in Section 6 just south of the town of Waverly, Indiana.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☑ Other (Crooked Creek in Section 6)

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☑ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 119 Acres

Preservation Only: 80 Acres

Construction (Forest/Stream/Wetland): 39 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 14 Acres

Future Core Forest: 52 Acres

Property description:

The property showed excellent wetlands of skunk cabbage, Carex, appendaged waterleaf, and many different species of trees. A unique quality in addition to the wetlands is a large 7 story (about 70 foot high) ceremonial mound that overlooks the West Fork of the White River. The western property boundary is approximately 1/3 mile from the West Fork of the White River as possibly connected via a ditch. The property has an old bog called Waverly Bog that showed buttonbush, cottonwood, silver maple, red maple and many other species. Archaeological material on this property is highly likely.

Special notes:

Currently, the property owner would like to subdivide and sell for residential or commercial purposes. Trails exist through most of this property. The house and immediate area would be cut out of the fee simple transaction.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

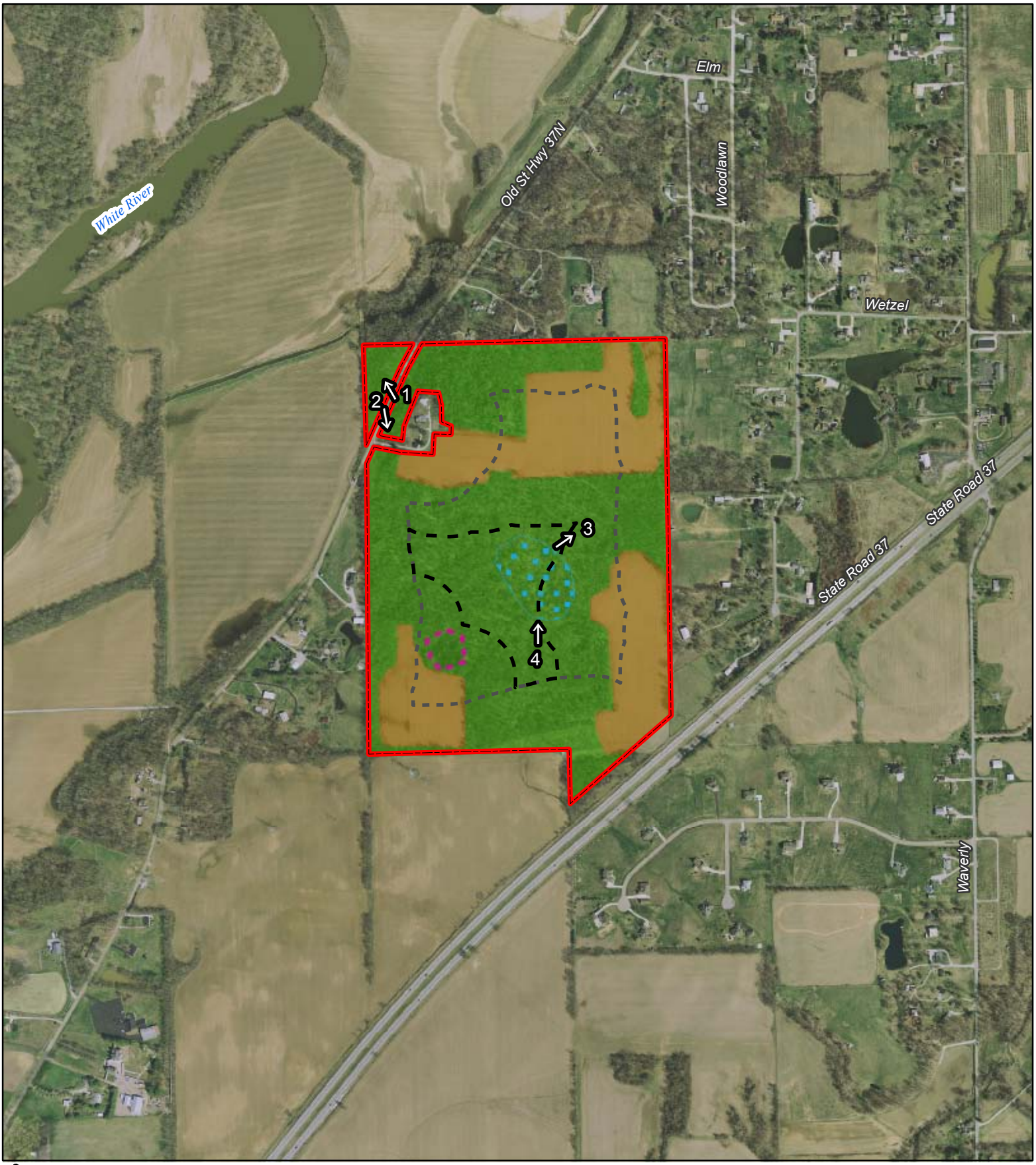


Photo Locations and Direction
Existing Core Forest (14 Acres)
Future Core Forest (52 Acres)
Mitigation Area (119 Acres)
Bog Area
Ceremonial Mound
Potential Preservation Area (80 Acres)
Potential Reforestation Area (39 Acres)
I-69 Section 5 ROW

Waverly Bog Site
Detailed Property Map
Shown on 2011 Aerial Photo
Harrison Township - Morgan County, Indiana

1 inch = 833 feet

0 500 1,000 Feet

N

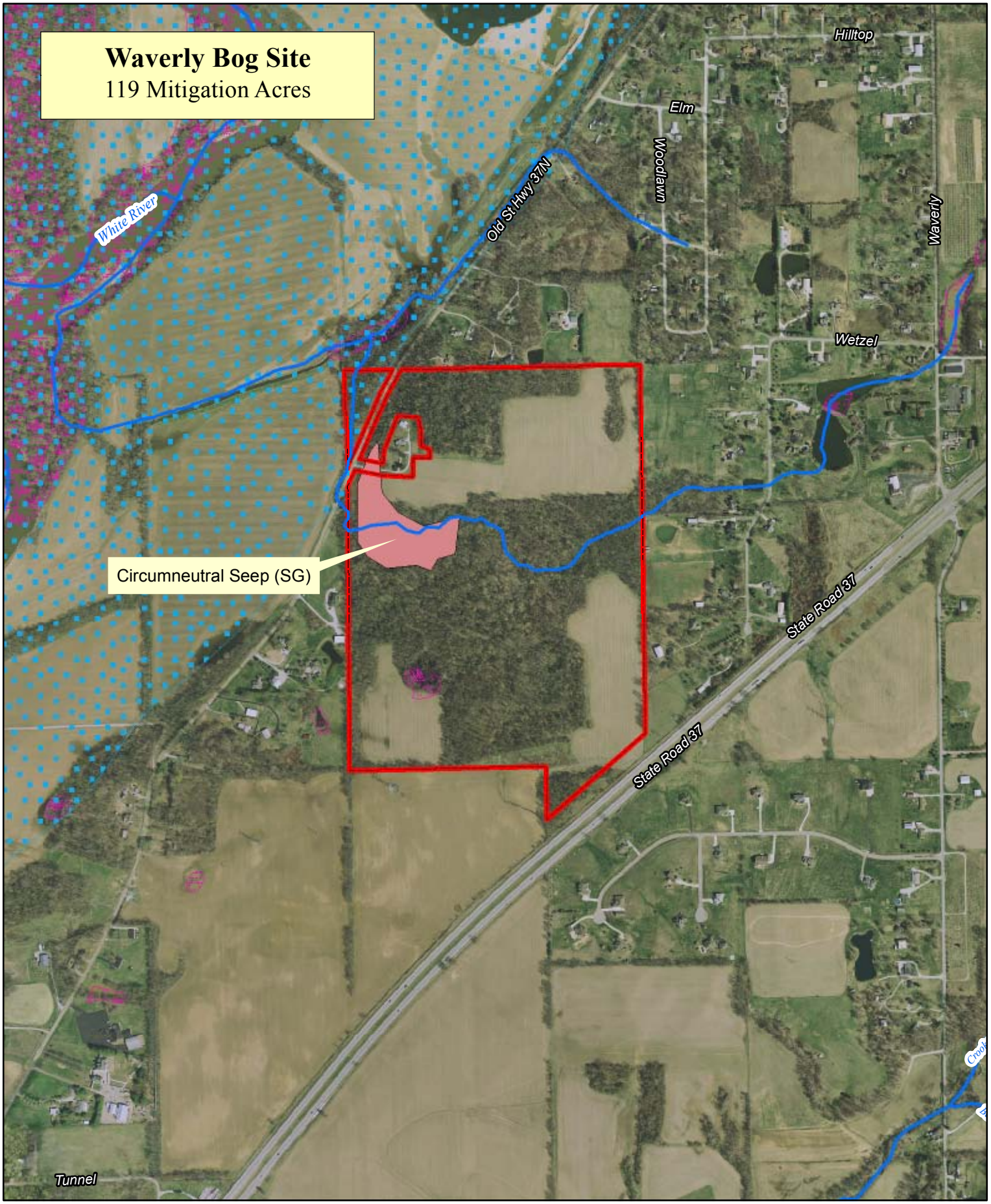
Waverly Bog Site Photos

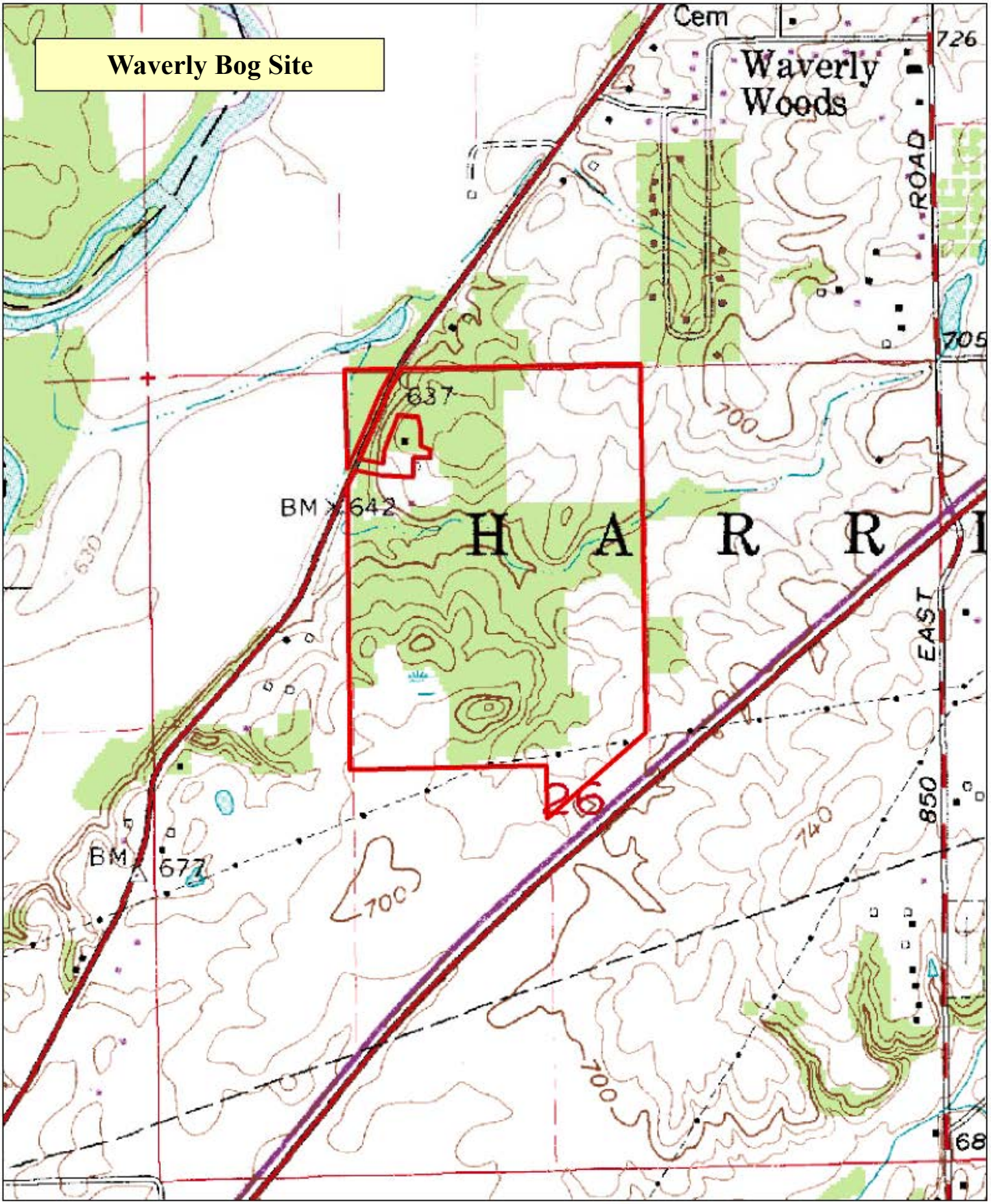
Photo 1: Typical bottomland forested wetland area

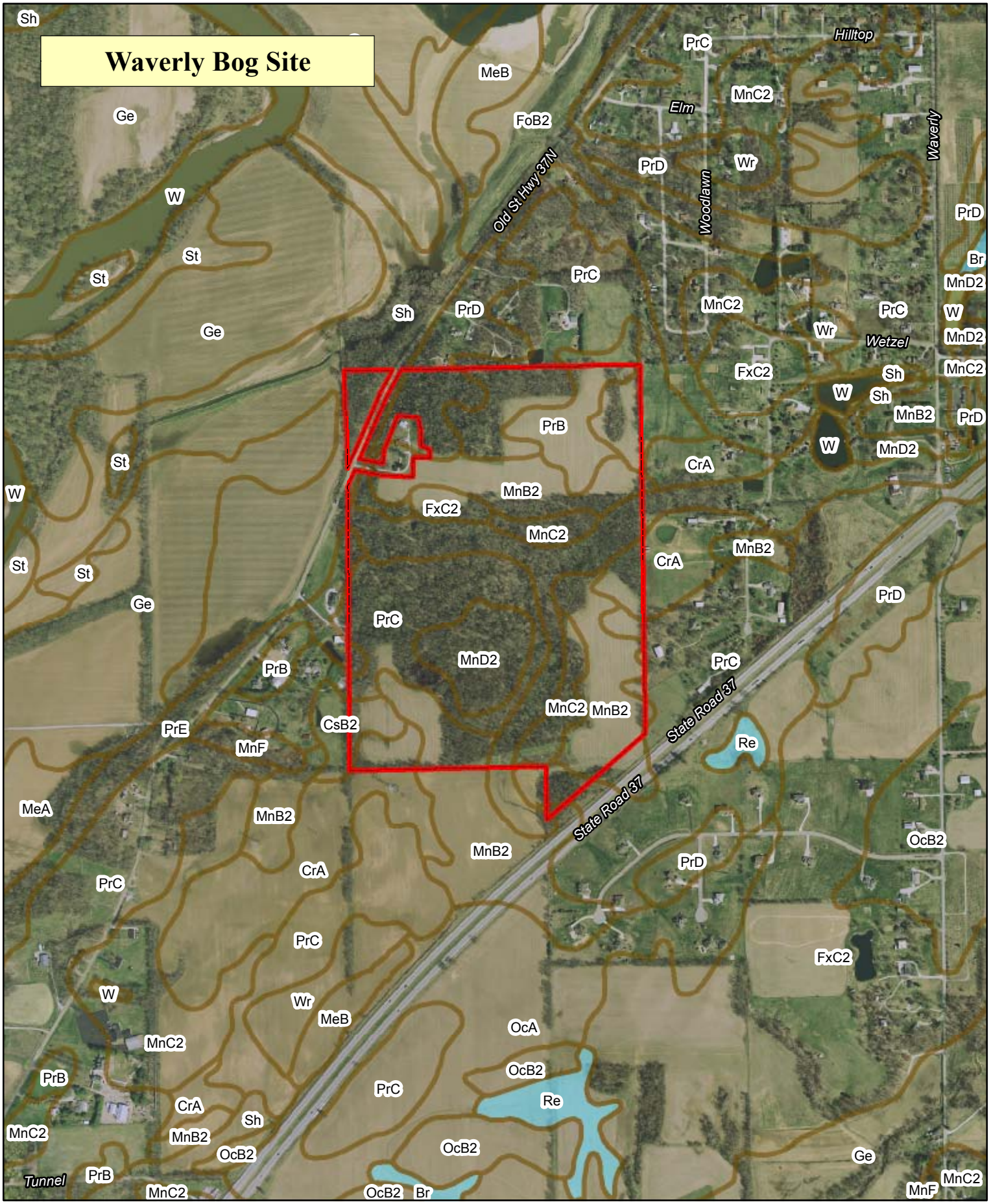
Photo 2: Wetland with skunk cabbage

Photo 3: Typical creek bed

Photo 4: Waverly Bog with buttonbush


Waverly Bog Site
119 Mitigation Acres
Hilltop
Elm
Woodlawn
Old St Hwy 37N
White River
Waverly
Wetzel
Circumneutral Seep (SG)
State Road 37
State Road 37
Tunnel
CONFIDENTIAL
N
0
400
800
1,200
1,600
2,000
Feet
Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Waverly Bog Site
Cem
Waverly Woods
726
ROAD
705
637
700
BM 642
H A R R I
630
EAST
850
740
26
BM 677
700
700
68
N
0
400
800
1,200
1,600
2,000
Feet
Intermittent Stream (3,006 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Waverly Bog Site
Sh
PrC
Hilltop
MeB
MnC2
Ge
Elm
FoB2
Waverly
Old St Hwy 37N
PrD
Wr
Woodlawn
W
PrD
St
Br
St
PrC
MnD2
Sh
PrD
MnC2
PrC
W
Ge
Wr
MnD2
Wetzel
FxC2
Sh
MnC2
W
Sh
MnB2
PrD
PrB
W
MnD2
St
CrA
W
MnB2
FxC2
MnC2
MnB2
St
St
CrA
PrD
Ge
PrC
MnD2
PrB
PrC
MnC2
MnB2
State Road 37
PrE
CsB2
MnF
Re
MeA
MnB2
State Road 37
OcB2
MnB2
PrD
CrA
PrC
PrC
FxC2
W
Wr
MeB
OcA
MnC2
OcB2
PrB
PrC
Re
CrA
Sh
MnC2
MnB2
OcB2
OcB2
Ge
Tunnel
PrB
MnC2
MnF
MnC2
OcB2
Br
N
0
400
800
1,200
1,600
2,000
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: CrA - Crosby silt loam, 0 to 2 percent slopes

Component: Crosby (90%)

The Crosby component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 20 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Map unit: CsB2 - Crosby-Miami silt loams, 2 to 4 percent slopes, eroded

Component: Crosby (60%)

The Crosby component makes up 60 percent of the map unit. Slopes are 2 to 4 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 20 to 40 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Component: Miami (30%)

The Miami component makes up 30 percent of the map unit. Slopes are 2 to 4 percent. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Map unit: FxC2 - Fox complex, 6 to 15 percent slopes, eroded

Component: Fox, eroded (65%)

The Fox, eroded component makes up 65 percent of the map unit. Slopes are 6 to 12 percent. This component is on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 40 percent.

Component: Fox, severely eroded (20%)

The Fox, severely eroded component makes up 20 percent of the map unit. Slopes are 8 to 15 percent. This component is on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 40 percent.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: MnB2 - Miami silt loam, 2 to 6 percent slopes, eroded

Component: Miami (90%)

The Miami component makes up 90 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Map unit: MnC2 - Miami silt loam, 6 to 12 percent slopes, eroded

Component: Miami (90%)

The Miami component makes up 90 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Map unit: MnD2 - Miami silt loam, 12 to 18 percent slopes, eroded

Component: Miami (100%)

The Miami component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, densic material, is 24 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 33 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 28 percent.

Map unit: PrB - Princeton fine sandy loam, 2 to 6 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: PrC - Princeton fine sandy loam, 6 to 12 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: PrD - Princeton fine sandy loam, 12 to 18 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: PrE - Princeton fine sandy loam, 18 to 25 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 18 to 25 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: Sh - Shoals silt loam

Component: Shoals (90%)

The Shoals component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Appendix L

Berean Valley Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Berean Valley

Location description:

This site is located in Morgan County, south of Berean Road and is approximately 1 mile northwest and west of Patton Lake.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☑ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 245 Acres

Preservation Only: 245 Acres

Construction (Forest/Stream/Wetland): 0 Acres

Stream Development/Restoration: 0 ĆŜŝű

Existing Core Forest: 171 Acres

Future Core Forest: 171 Acres

Property description:

The property is a forested parcel. There are no stream improvements or wetland development proposed for this site. The property showed excellent upland and bottomland forests. It is hilly showing oak and hickory woods, and beech maple forests depending upon aspect. The timber is mature with the understory and ground cover limited.

Special notes:

The property is within the Upper White River (#05120201) watershed, and has Lamb Creek flowing through it. The Lamb Creek Maternity Colony is to the southeast.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

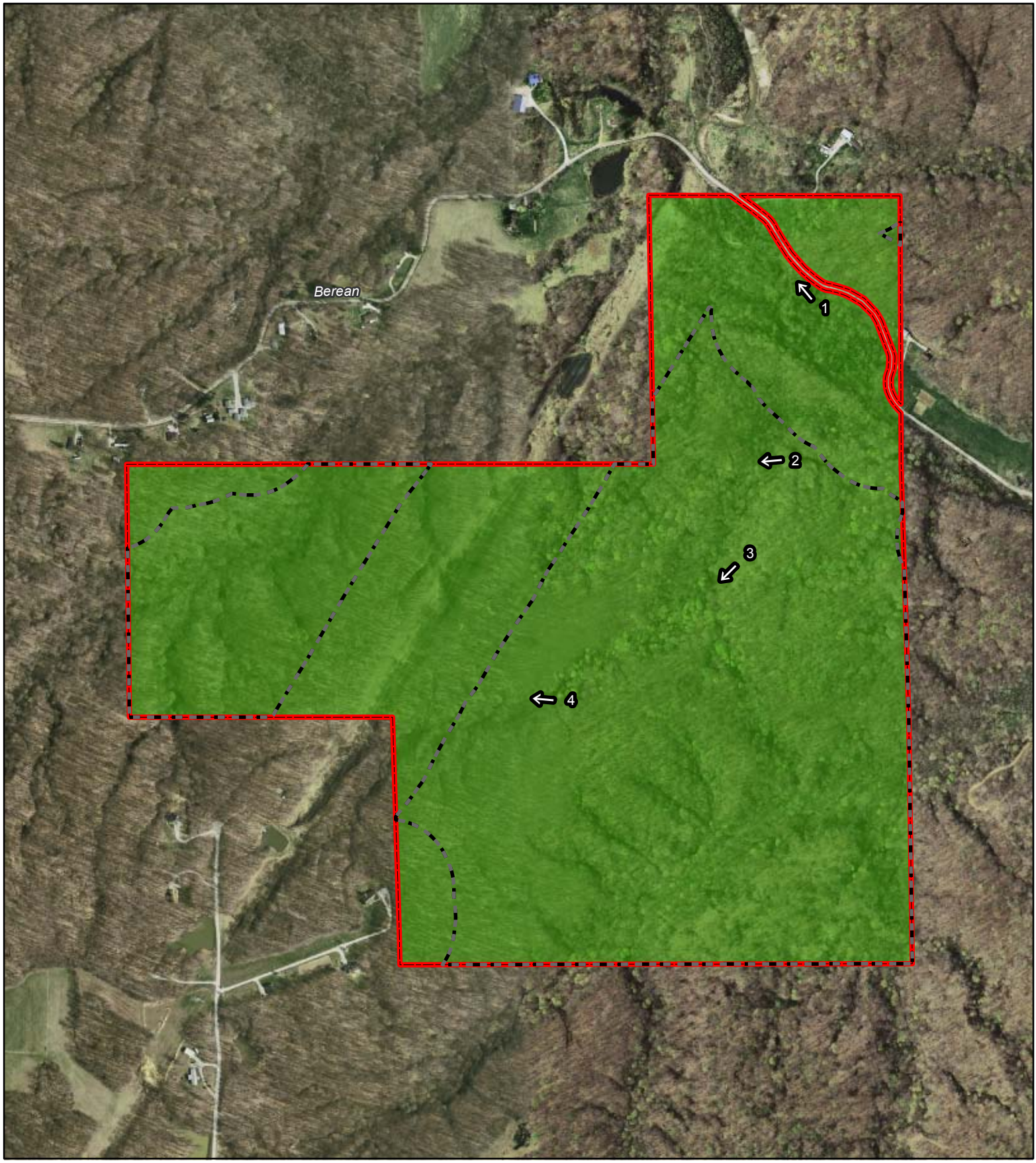


Photo Locations and Direction
I-69 Section 5 ROW
Future Core Forest (171 Acres)
Existing Core Forest (171 Acres)
Mitigation Area
Preservation Area (245 Acres)

Berean Valley site
Detailed Property Map
Shown on 2011 Aerial Photo
Gregg Township - Morgan County, Indiana

1 inch = 667 feet

0 500 1,000 Feet

N

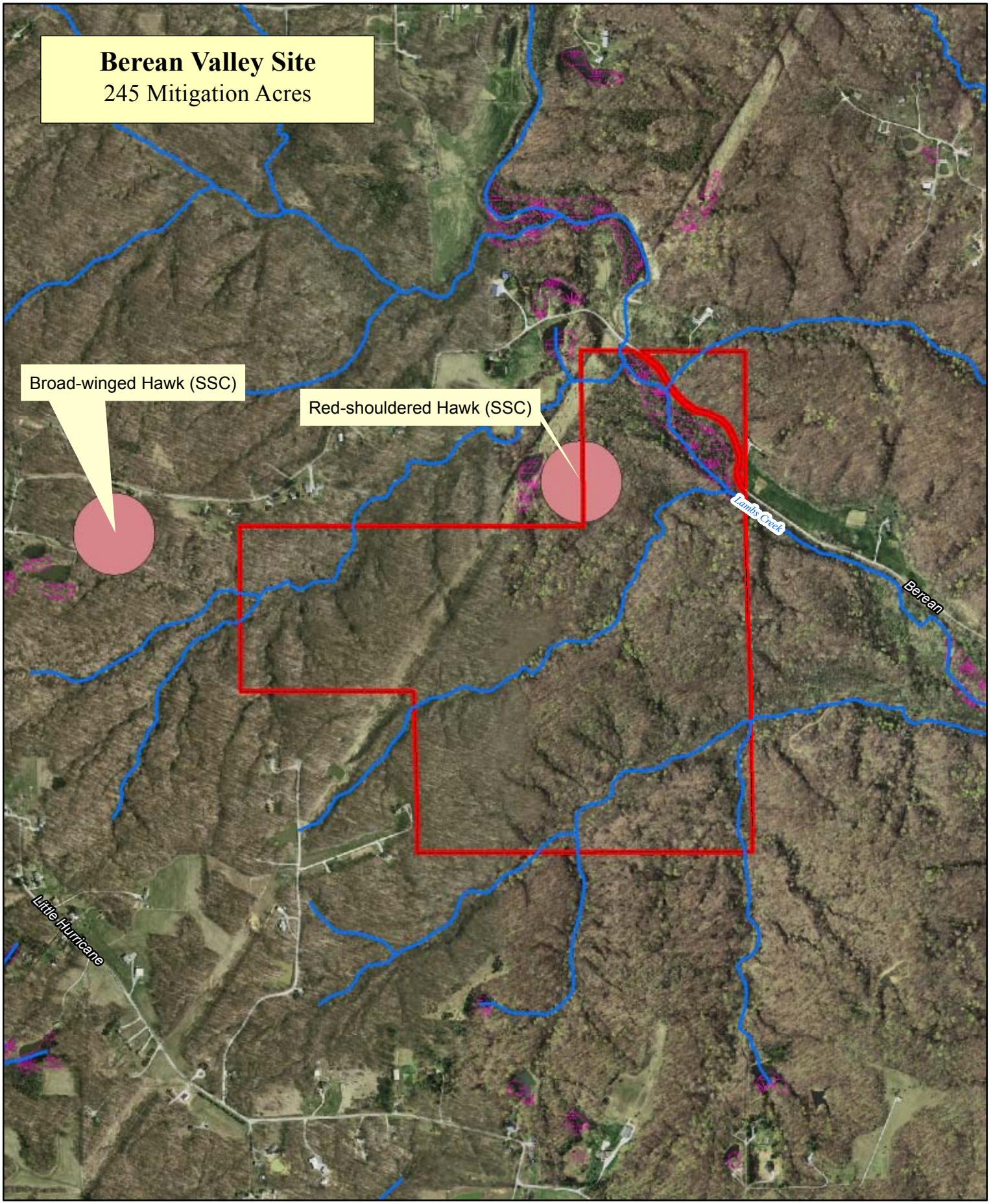
Berean Valley Site Photos

Photo 1: Lamb Creek looking upstream

Photo 2: Typical wooded area

Photo 3: Typical wooded area

Photo 4: Typical wooded area



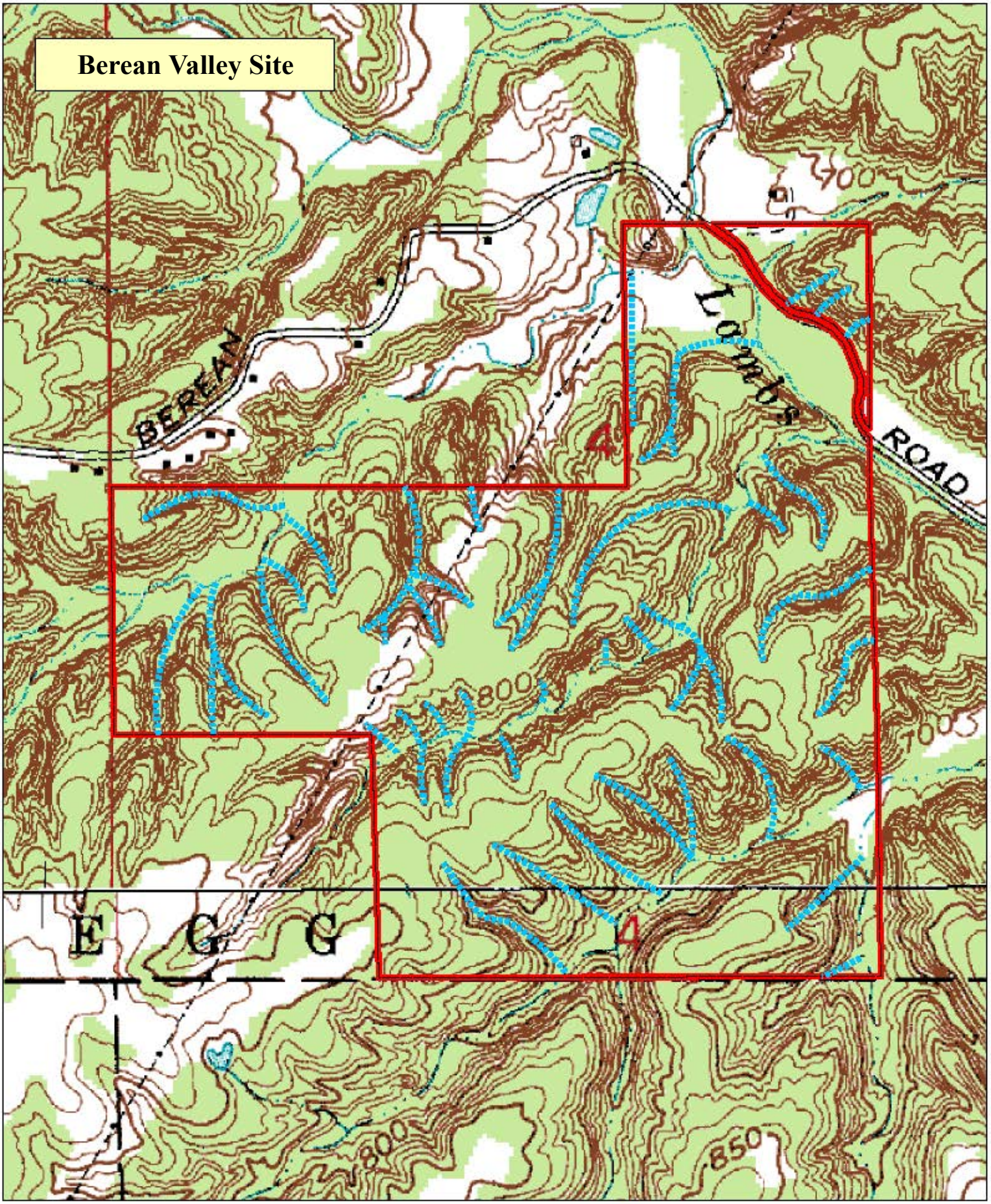
CONFIDENTIAL

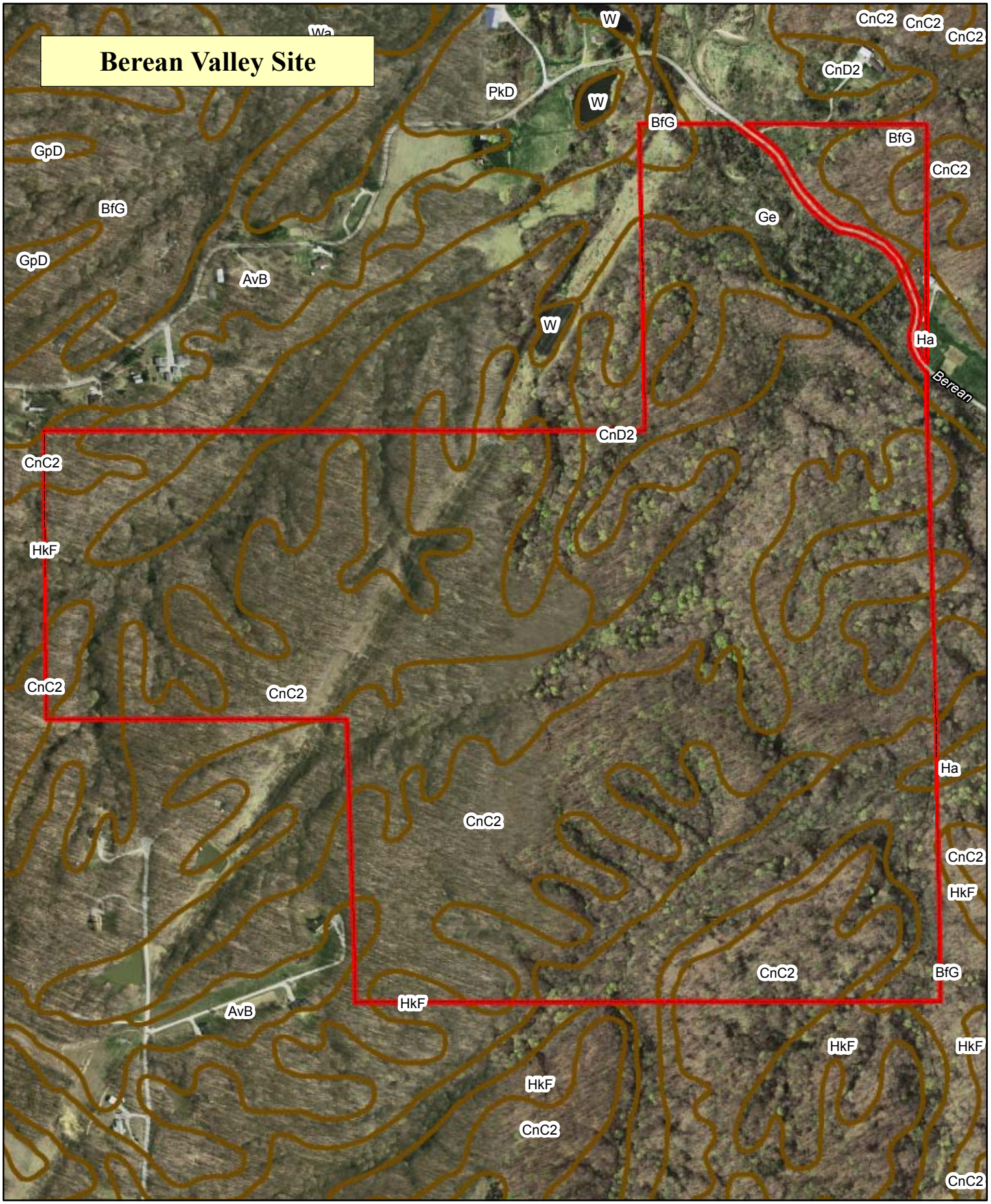
N

0 400 800 1,200 1,600 2,000 2,400

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Berean Valley Site
BEREAN
Lombs
ROAD
700
750
800
800
850
E
G
G
4
4
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (9,598 Linear Ft)
Perennial Stream (1,702 Linear Ft)
Ephemeral Stream (23,512 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Berean Valley Site
W
CnC2
CnC2
CnC2
CnD2
PkD
W
BfG
BfG
GpD
CnC2
BfG
Ge
GpD
AvB
W
Ha
Berean
CnD2
CnC2
HkF
CnC2
CnC2
Ha
CnC2
CnC2
HkF
CnC2
BfG
AvB
HkF
HkF
HkF
HkF
CnC2
CnC2
N
0
400
800
1,200
Feet
Mitigation Area
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: AvB - Ava silt loam, 2 to 6 percent slopes

Component: Ava (100%)

The Ava component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 25 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: BfG - Berks channery silt loam, 35 to 80 percent slopes

Component: Berks (100%)

The Berks component makes up 100 percent of the map unit. Slopes are 35 to 80 percent. This component is on hills. The parent material consists of loamy-skeletal residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: CnC2 - Cincinnati silt loam, 6 to 12 percent slopes, eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Ge - Genesee silt loam

Component: Genesee (100%)

The Genesee component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Ha - Haymond silt loam

Component: Haymond (100%)

The Haymond component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty over loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: HkF - Hickory loam, 18 to 50 percent slopes

Component: Hickory (100%)

The Hickory component makes up 100 percent of the map unit. Slopes are 18 to 50 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: PkD - Parke silt loam, 12 to 18 percent slopes

Component: Parke (100%)

The Parke component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Appendix M

Nutter Ditch Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Nutter Ditch

Location description:

The property is located east of and borders the West Fork of the White River across from the confluence of Lamb Creek. The property is north of Rogers Road, less than 0.5 mile west of Martinsville.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☑ Other - Lamb Creek Maternity Colony

☑ Conservation Easement ☐ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 327 Acres

Preservation Only: 219 Acres

Construction (Forest/Stream/Wetland): 108 Acres

Stream Development/Restoration: _____ CŜŜú

Existing Core Forest: 3 Acres

Future Core Forest: 17 Acres

Property description:

The property is agricultural and forested, and 3 large lakes up a majority of the property. The site is bordered by the West Fork of the White River. Riparian forests showed large trees of cottonwood, maple, sycamore, willow and ash. The West Fork of the White River showed erosion at high energy banks. Wetland and stream mitigation are possible at this site.

Special notes:

The property is within the Upper White River (#05120201) watershed. It is also within the Lamb Creek Maternity Colony. An Indiana bat roost tree was discovered in mid-May 2012 across the West Fork of the White River at the confluence of Lamb Creek.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

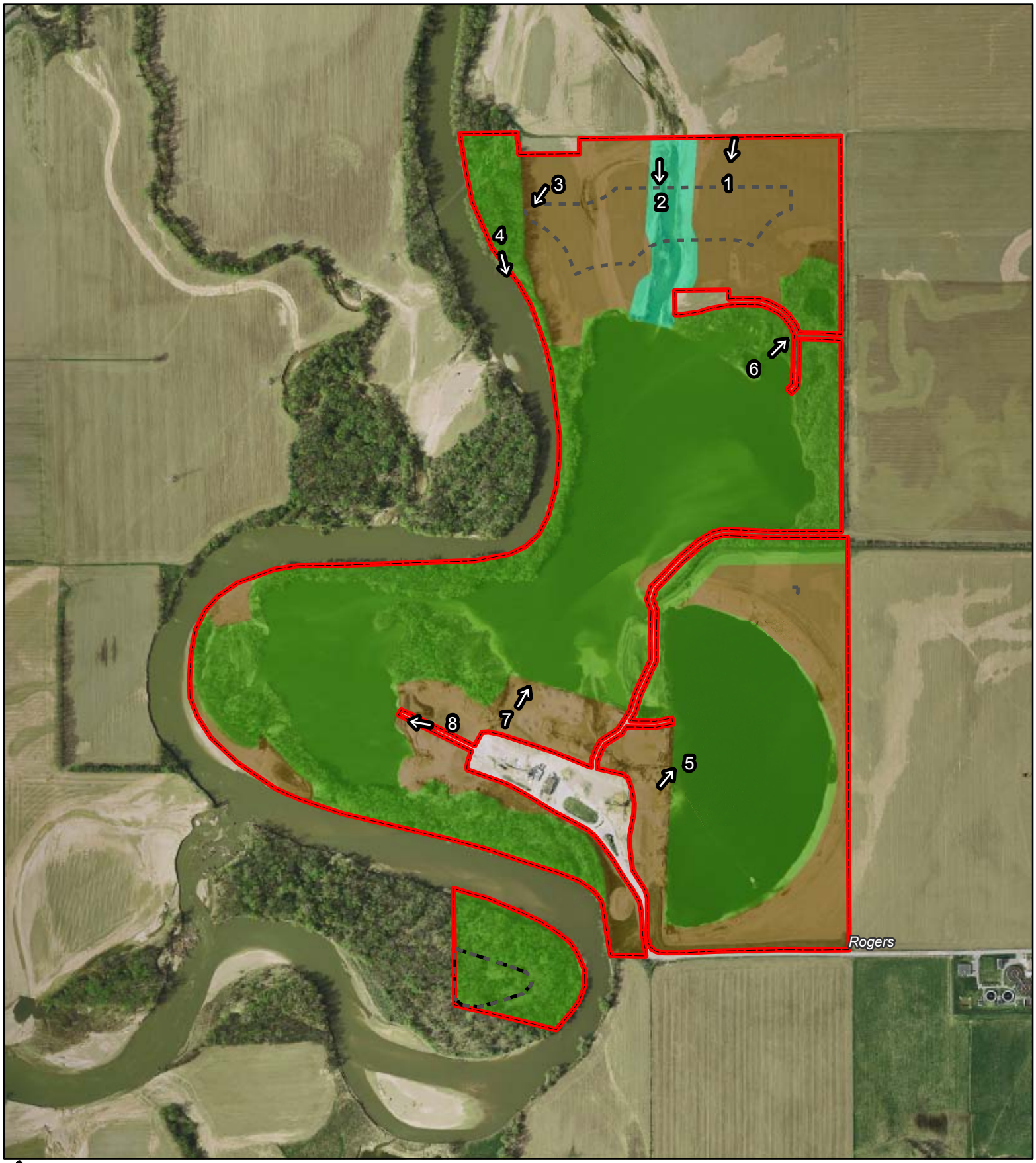


Photo Locations and Direction
Future Core Forest (17 Acres)
Existing Core Forest (3 Acres)
Mitigation Area (327 Acres)
Potential Preservation Area (219 Acres)
Potential Reforestaion Area (99 Acres)
Potential Riparian Area (9 Acres)
I-69 Section 5 ROW

Nutter Ditch Site
Detailed Property Map
Shown on 2011 Aerial Photo
Washington Township - Morgan County, Indiana

1 inch = 833 feet

0 500 1,000 Feet

N

Nutter Ditch Site Photos

Photo 1: Typical Agricultural Field with Soybeans

Photo 2: Streambed of Washed Out area coming from White River

Photo 3: Typical Riparian Woods of West Fork of White River

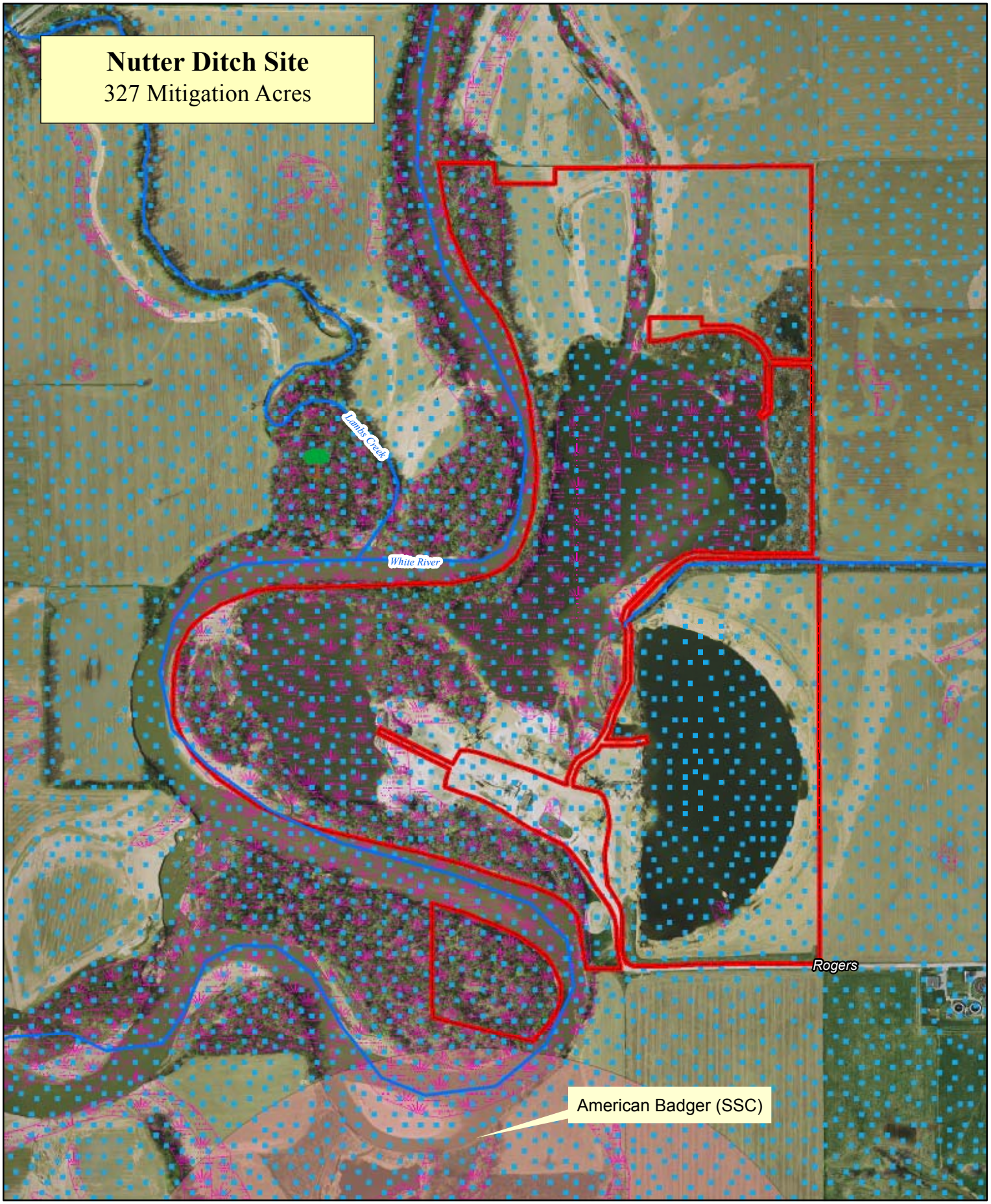
Photo 4: West Fork of White River looking downstream

Photo 5: Lake with Current Mining on Property

Photo 6: Emergent Wetland in Bay or Cove

Photo 7: Largest (Northern) Lake looking Northeast

Photo 8: Western Lake looking West

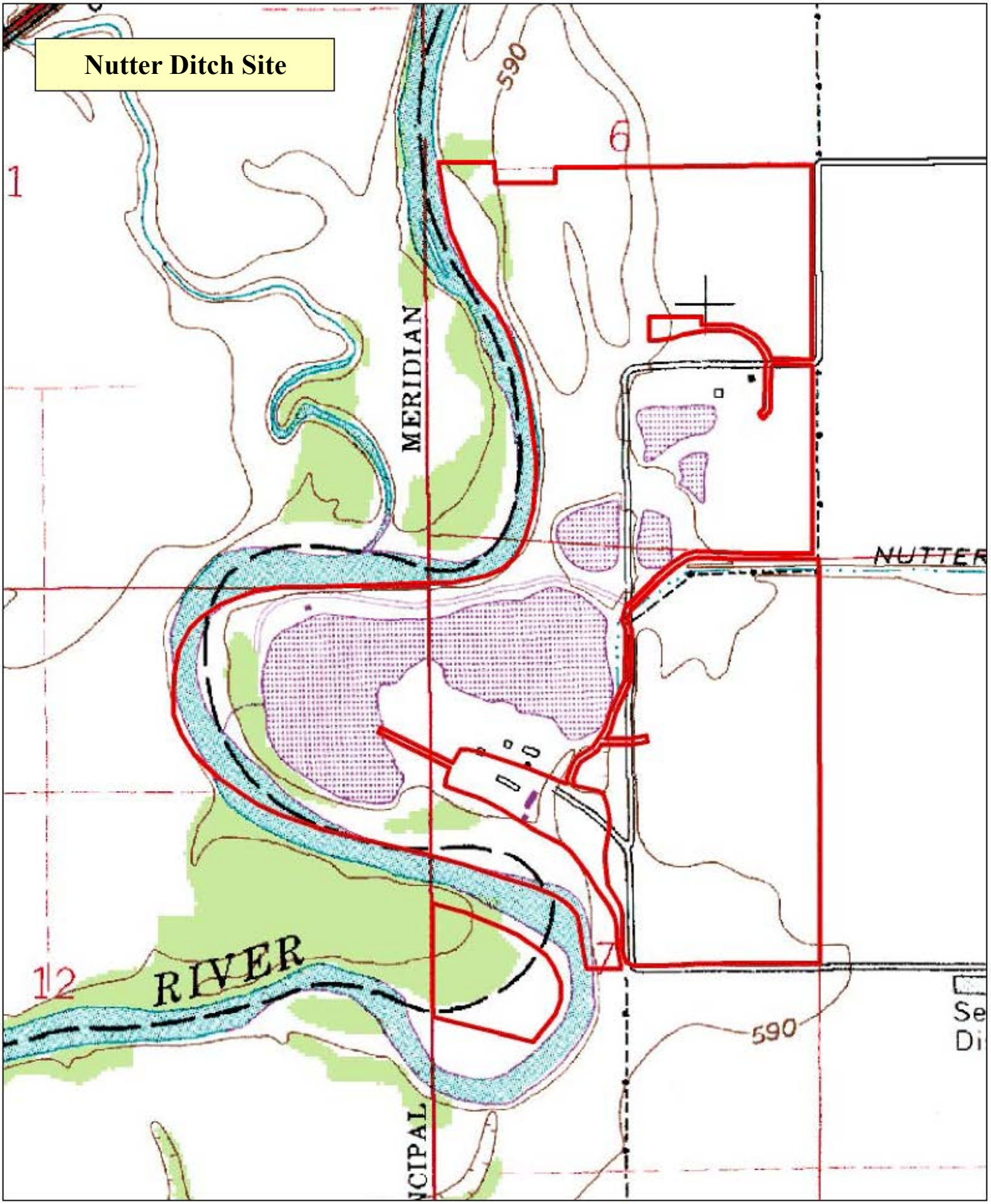


CONFIDENTIAL

N

0 1,000 2,000 Feet

Endangered Species CONFIDENTIAL
2012 Roost Tree CONFIDENTIAL
Mitigation Area (327 Acres)
Karst Springs (state)
Kast Springs (Section 5)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Nutter Ditch Site
590
6
1
MERIDIAN
NUTTER
12
RIVER
590
7
N
0
1,000
2,000
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (9,723 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Nutter Ditch Site
St
MeB
St
MeB
Ge
Ge
St
Ar
Ar
MeA
MeB
Ge
Sh
Ge
St
Sh
MeA
W
W
Ar
Ge
Ps
Ge
Ro
St
Ge
St
Rogers
St
Ge
Sh
Ar
St
Ge
Sh
St
W
Sh
N
0
1,000
2,000
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Ar - Armiesburg silty clay loam

Component: Armiesburg (100%)

The Armiesburg component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Ge - Genesee silt loam

Component: Genesee (100%)

The Genesee component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Ps - Pits

Component: Pits (100%)

Generated brief soil descriptions are created for major soil components. The Pits is a miscellaneous area.

Map unit: St - Stonelick sandy loam

Component: Stonelick (100%)

The Stonelick component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 20 percent.

Map unit: W - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Appendix N

Ravinia Woods Site

Section 5 Mitigation Site Form

DES #: _____

Site Name: Ravinia Woods

Location description:

Ravinia Woods is a unit of the Morgan-Monroe State Forest located in Morgan County.

Focus Area

- ☑ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: State owned

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 373 Acres

Preservation Only: 373 Acres

Construction (Forest/Stream/Wetland): _____ Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 771 Acres

Future Core Forest: 771 Acres

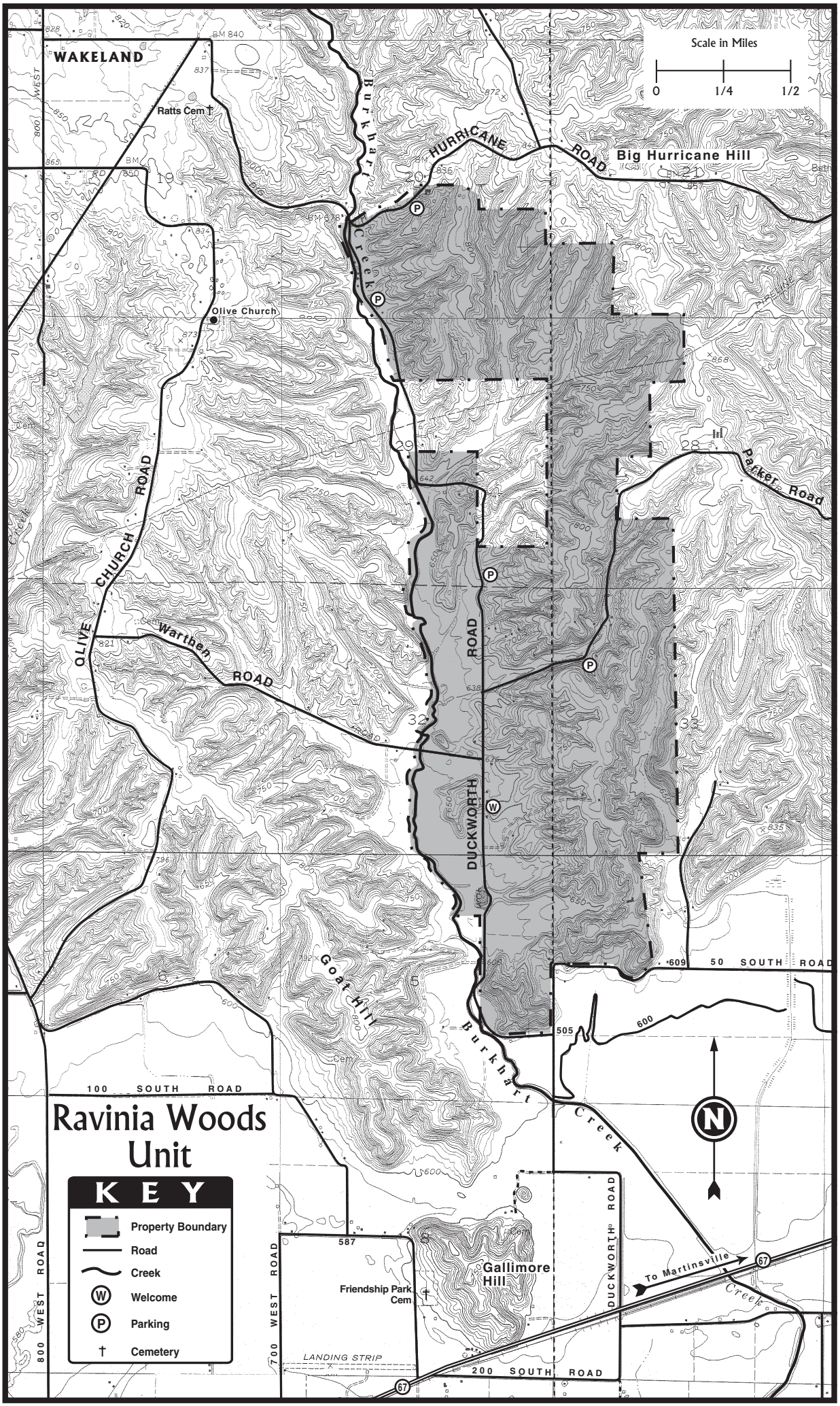
Property description:

This large forested IDNR property is managed by the Department of Forestry. It is connected to the Bryant Creek Maternity via Burkhart Creek. Many small headwater streams and mature timber occur on this forested property. Recently discovered Indiana bat roost trees have been located immediately east of Ravinia Woods along Lambs Creek/West Fork of the White River.

Special notes:

Within the Tier 1 Biological Opinion (Addendum), the USFWS agreed to use 1/3 of the required mitigation acres in Section 5 at Ravinia Woods from INDOT funding its acquisition in 2006.

- ☐ 1. Initial contact
- ☐ 2. Information gathering
- ☐ 3. Initial meeting with property owner
- ☐ 4. Property owner agrees to completion of an appraisal
- ☐ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)


Scale in Miles
0
1/4
1/2
WAKELAND
Ratts Cem
Olive Church
Big Hurricane Hill
HURRICANE ROAD
Burkhart Creek
OLIVE CHURCH ROAD
Wartherh ROAD
DUCKWORTH ROAD
Parker Road
50 SOUTH ROAD
100 SOUTH ROAD
Goat Hill
Burkhart Creek
Gallimore Hill
Friendship Park Cem
To Martinsville
LANDING STRIP
200 SOUTH ROAD
800 WEST ROAD
700 WEST ROAD
Ravinia Woods Unit
KEY
Property Boundary
Road
Creek
Welcome
Parking
Cemetery

Source: IDNR

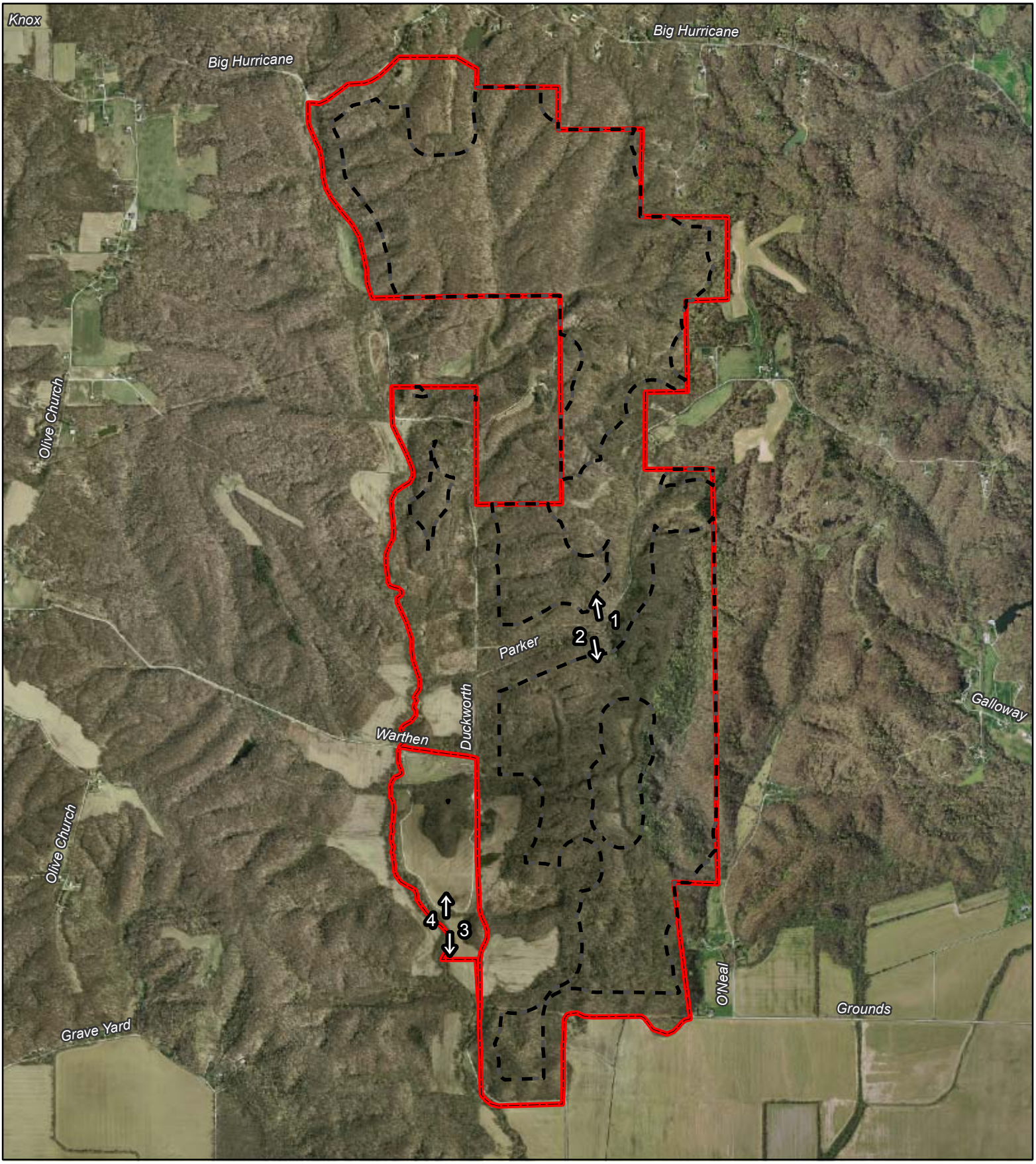


Photo Locations and Direction
Existing Core Forest (771 Acres)
Future Core Forest (771 Acres)
Mitigation Area
I-69 Section 5 ROW

Ravinia Woods Site
Property Map
Shown on 2011 Aerial Photo
Ashland, Jefferson and RayTownships
Morgan County, Indiana

1 inch = 2,000 feet

0 1,000 2,000 3,000 Feet

N

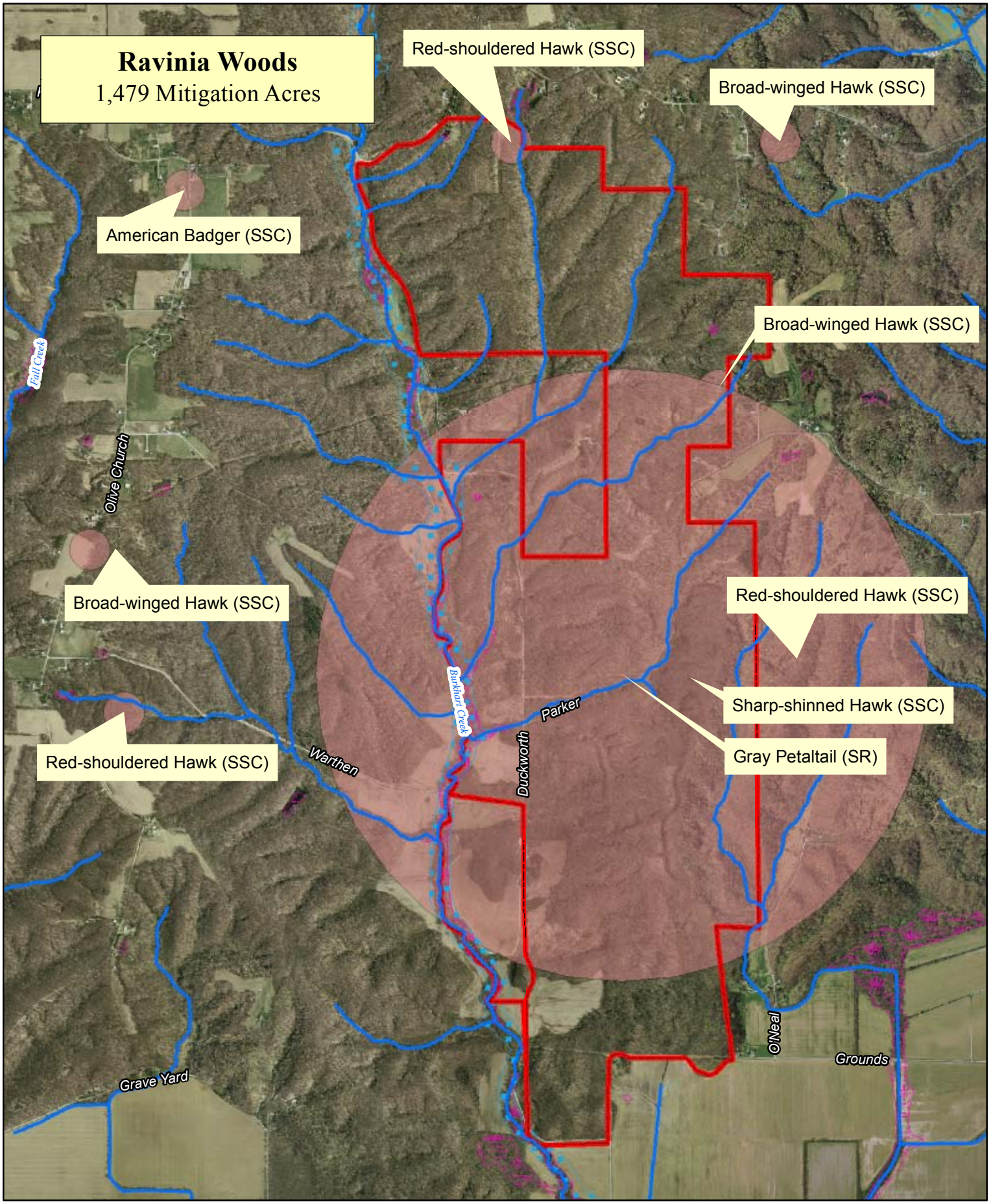
Ravinia Woods Photos

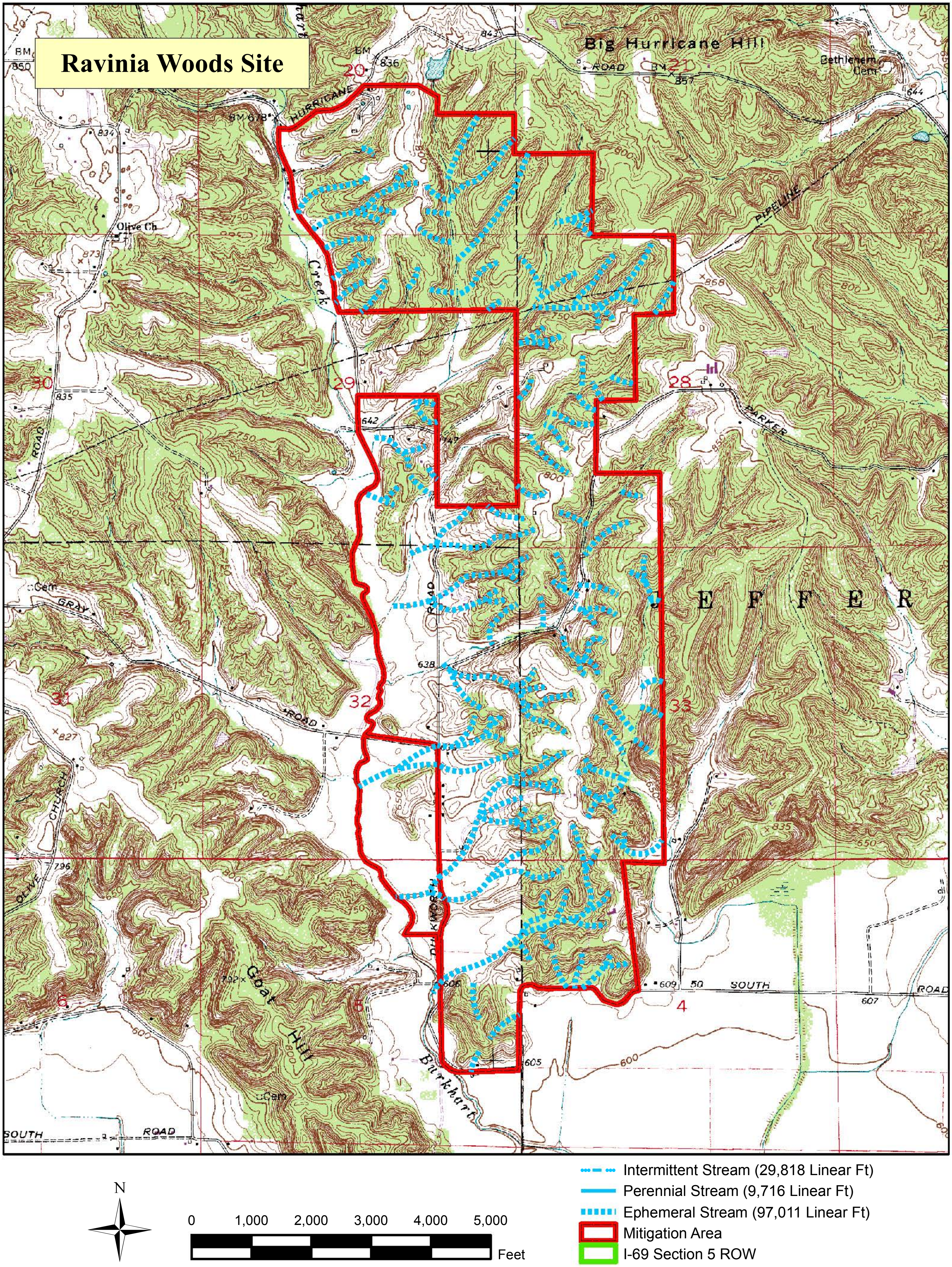
Photo 1: Typical bottomland forest at Ravinia Woods.

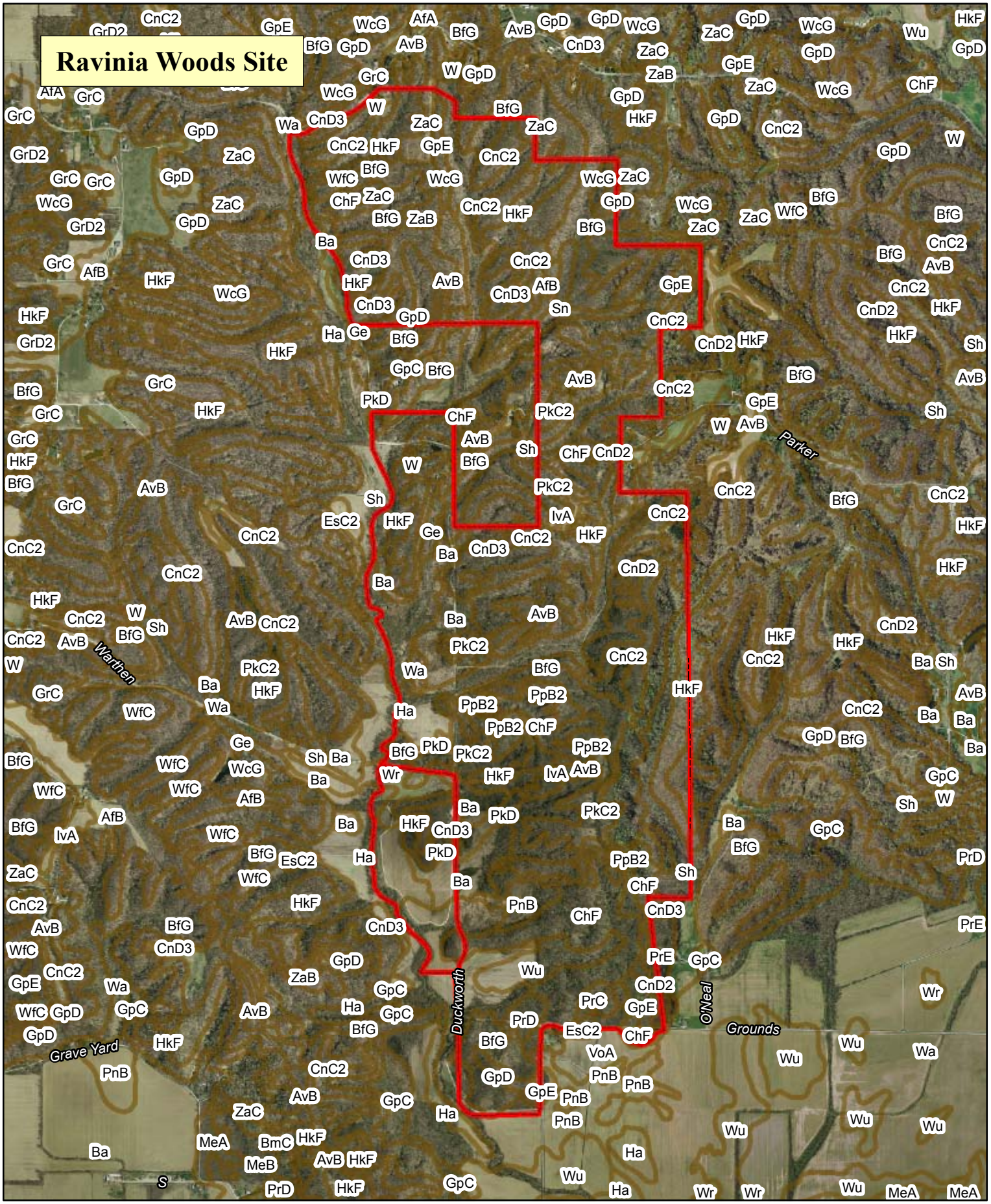
Photo 2: Typical upland forest at Ravinia Woods.

Photo 3: Showing downstream flyway along Burkhart Creek.

Photo 4: Showing upstream flyway along Burkhart Creek.


Ravinia Woods
1,479 Mitigation Acres
Red-shouldered Hawk (SSC)
Broad-winged Hawk (SSC)
American Badger (SSC)
Broad-winged Hawk (SSC)
Broad-winged Hawk (SSC)
Red-shouldered Hawk (SSC)
Sharp-shinned Hawk (SSC)
Gray Petaltail (SR)
Red-shouldered Hawk (SSC)
Tall Creek
Olive Church
Burkhart Creek
Parker
Duckworth
Warthen
O'Neal
Grounds
Grave Yard
CONFIDENTIAL
N
0
1,000
2,000
3,000
4,000
5,000
Feet
Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Ravinia Woods Site
Big Hurricane Hill
Olive Ch.
Creek
Goat Hill
Burkhart
PIPELINE
PARKER
GRAY ROAD
SOUTH ROAD
50 SOUTH ROAD
E F F E R
Intermittent Stream (29,818 Linear Ft)
Perennial Stream (9,716 Linear Ft)
Ephemeral Stream (97,011 Linear Ft)
Mitigation Area
I-69 Section 5 ROW
N
0 1,000 2,000 3,000 4,000 5,000
Feet


Ravinia Woods Site
Warthen
Parker
Duckworth
O'Neal
Grounds
Grave Yard
N
0
1,000
2,000
3,000
4,000
5,000
Feet
Mitigation Areas
I-69 Section 5 ROW
Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: AfB - Alford silt loam, 2 to 6 percent slopes

Component: Alford (100%)

The Alford component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on loess hills. The parent material consists of loess. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: AvB - Ava silt loam, 2 to 6 percent slopes

Component: Ava (100%)

The Ava component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 25 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: Ba - Banlic silt loam

Component: Banlic (90%)

The Banlic component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: BfG - Berks channery silt loam, 35 to 80 percent slopes

Component: Berks (100%)

The Berks component makes up 100 percent of the map unit. Slopes are 35 to 80 percent. This component is on hills. The parent material consists of loamy-skeletal residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: ChF - Chetwynd loam, 18 to 80 percent slopes

Component: Chetwynd (100%)

The Chetwynd component makes up 100 percent of the map unit. Slopes are 18 to 80 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: CnC2 - Cincinnati silt loam, 6 to 12 percent slopes, eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: CnD2 - Cincinnati silt loam, 12 to 18 percent slopes, eroded

Component: Cincinnati (100%)

The Cincinnati component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CnD3 - Cincinnati silt loam, 12 to 18 percent slopes, severely eroded

Component: Cincinnati, severely eroded (100%)

The Cincinnati, severely eroded component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 22 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: EsC2 - Elkinsville silt loam, 6 to 12 percent slopes, eroded

Component: Elkinsville (100%)

The Elkinsville component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Ge - Genesee silt loam

Component: Genesee (100%)

The Genesee component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: GpC - Gilpin silt loam, 6 to 12 percent slopes

Component: Gilpin (100%)

The Gilpin component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: GpD - Gilpin silt loam, 12 to 18 percent slopes

Component: Gilpin (100%)

The Gilpin component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: GpE - Gilpin silt loam, 18 to 25 percent slopes

Component: Gilpin (100%)

The Gilpin component makes up 100 percent of the map unit. Slopes are 18 to 25 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: GrC - Grayford silt loam, 6 to 12 percent slopes

Component: Grayford (100%)

The Grayford component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on till plains. The parent material consists of loess over loamy till over clayey residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 60 to 80 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Ha - Haymond silt loam

Component: Haymond (100%)

The Haymond component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty over loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: HkF - Hickory loam, 18 to 50 percent slopes

Component: Hickory (100%)

The Hickory component makes up 100 percent of the map unit. Slopes are 18 to 50 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: IvA - Iva silt loam, 0 to 3 percent slopes

Component: Iva (90%)

The Iva component makes up 90 percent of the map unit. Slopes are 0 to 3 percent. This component is on loess hills. The parent material consists of loess. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: PkC2 - Parke silt loam, 6 to 12 percent slopes, eroded

Component: Parke (100%)

The Parke component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: PkD - Parke silt loam, 12 to 18 percent slopes

Component: Parke (100%)

The Parke component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: PnB - Pekin silt loam, 2 to 6 percent slopes

Component: Pekin (100%)

The Pekin component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces. The parent material consists of loess over loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 21 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: PpB2 - Pike silt loam, 2 to 6 percent slopes, eroded

Component: Pike (100%)

The Pike component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of loess over loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: PrC - Princeton fine sandy loam, 6 to 12 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: PrD - Princeton fine sandy loam, 12 to 18 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: PrE - Princeton fine sandy loam, 18 to 25 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 18 to 25 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Map unit: Sh - Shoals silt loam

Component: Shoals (90%)

The Shoals component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: VoA - Vigo silt loam, 0 to 2 percent slopes

Component: Vigo (90%)

The Vigo component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: W - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map unit: Wa - Wakeland silt loam

Component: Wakeland (100%)

The Wakeland component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: WcG - Weikert channery silt loam, 40 to 80 percent slopes

Component: Weikert (100%)

The Weikert component makes up 100 percent of the map unit. Slopes are 40 to 80 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: WfC - Wellston silt loam, 6 to 12 percent slopes

Component: Wellston (100%)

The Wellston component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over loamy residuum over shale. Depth to a root restrictive layer, bedrock, lithic, is 40 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: Wr - Whitaker loam

Component: Whitaker (90%)

The Whitaker component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Wu - Wilbur silt loam

Component: Wilbur (100%)

The Wilbur component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: ZaB - Zanesville silt loam, 2 to 6 percent slopes

Component: Zanesville (100%)

The Zanesville component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of loess over loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 50 to 90 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: ZaC - Zanesville silt loam, 6 to 12 percent slopes

Component: Zanesville (100%)

The Zanesville component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 50 to 90 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Appendix O

Union Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Union

Location description:

This property is located off of Union Road just south of the White River in Baker Township.

Focus Area

- ☑ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 11 Acres

Preservation Only: 4 Acres

Construction (Forest/Stream/Wetland): 7 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 0 Acres

Future Core Forest: 0 Acres

Property description:

There are no opportunities for stream mitigation on this site. However, wetland development opportunities are available at this site. This property is not far from a number of Indiana bat roost trees and near the center of the Bryant Creek Maternity Colony. It is also near the West Fork of the White River. The existing woods and field (especially southwest corner) showed previous ponding.

Special notes:

This property is within the Upper White River Watershed (#05120201). It is within the Bryant Creek Maternity Colony Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

Photo Locations and Direction

Mitigation Area (11 Acres)

Potential Preservation Area (4 Acres)

Potential Reforestation Area (2 Acres)

Potential Wetlands (5 Acres)

I-69 Section 5 ROW

Union Site
Detailed Property Map
Shown on 2011 Aerial Photo
Baker Township - Morgan County, Indiana

1 inch = 833 feet

0 400 800 1,200 Feet

N

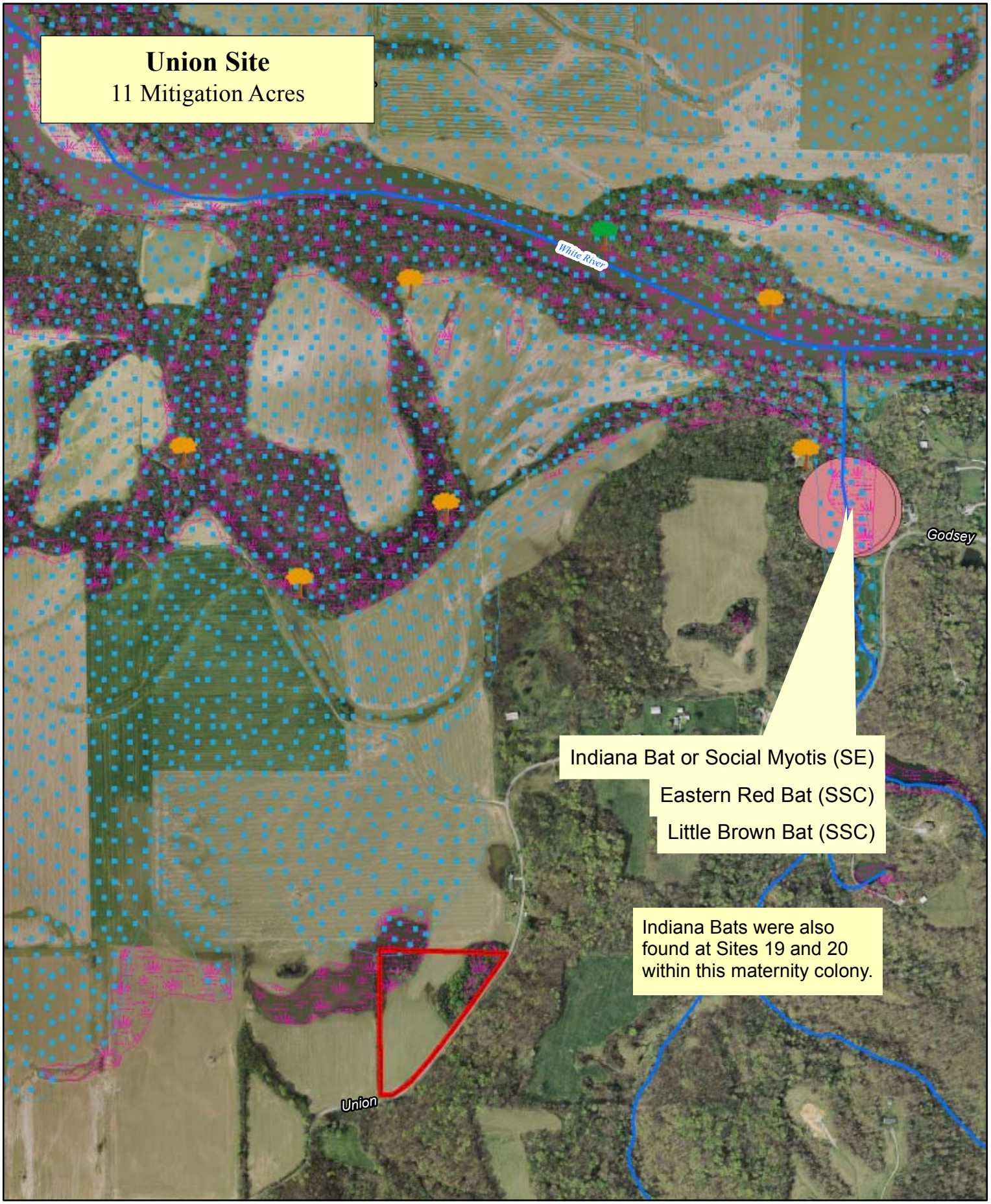
Union Site Photos

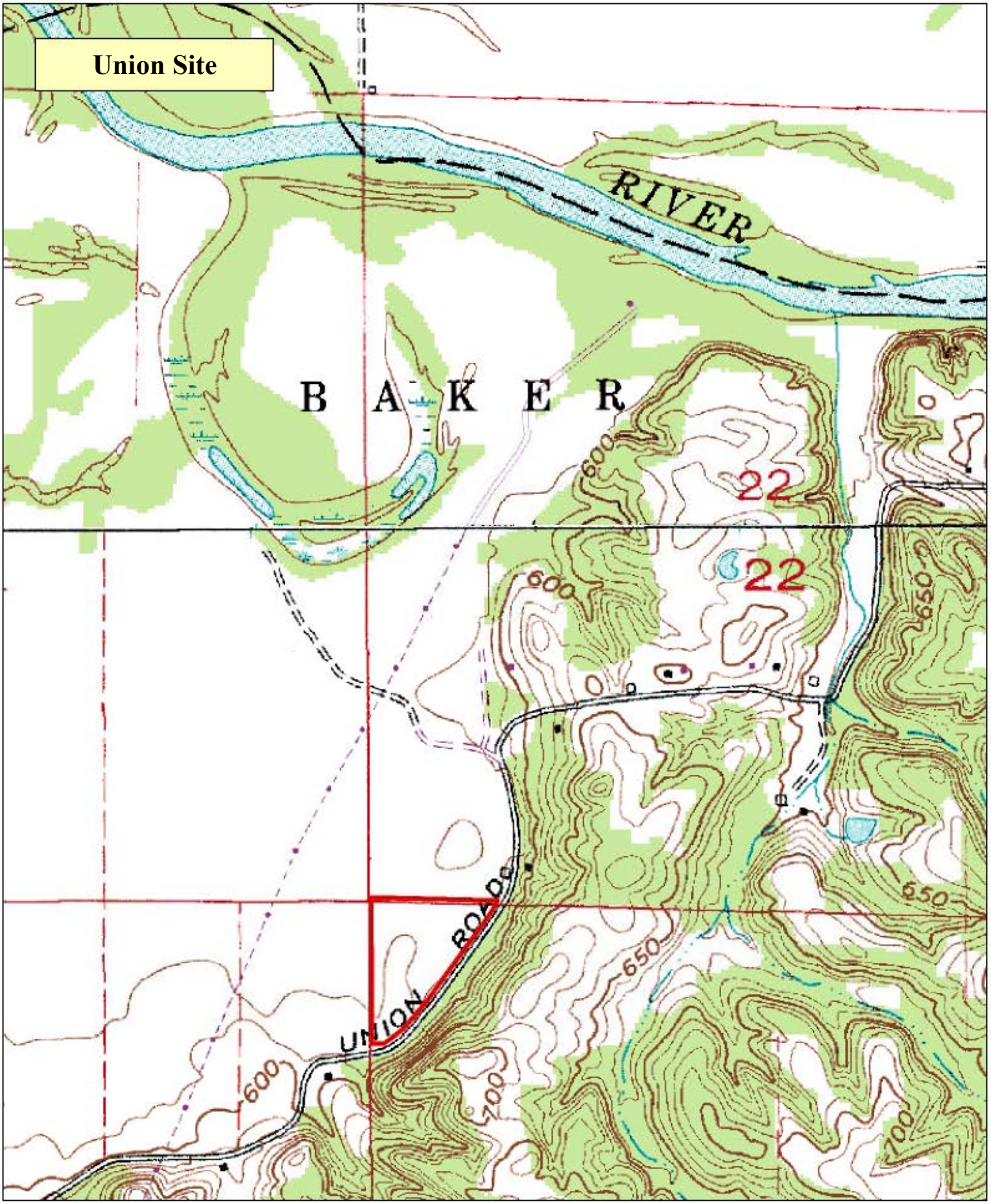
Photo 1: Typical bottomland woods showing inundation (Woodlot)

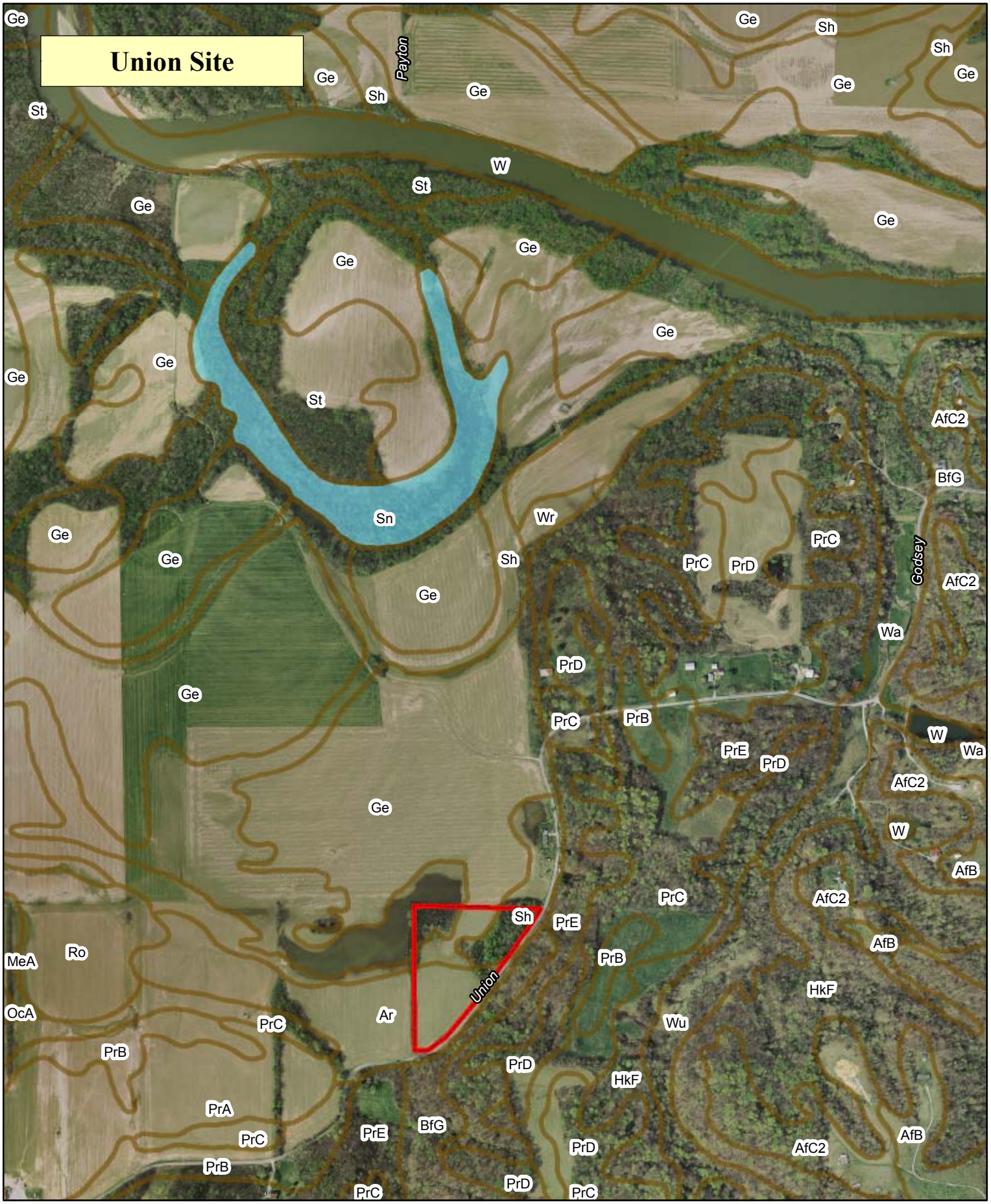

Photo 2: Typical agriculture field with woodlot located right of center

Photo 3: Typical bottomland woods showing inundation (Woodlot)


Photo 4: Typical agriculture field with willows located left of center


Union Site
11 Mitigation Acres
White River
Godsey
Union
Indiana Bat or Social Myotis (SE)
Eastern Red Bat (SSC)
Little Brown Bat (SSC)
Indiana Bats were also found at Sites 19 and 20 within this maternity colony.
N
CONFIDENTIAL
0 400 800 1,200 1,600 2,000
Feet
Endangered Species CONFIDENTIAL
2012 Roost Tree CONFIDENTIAL
2004, 2005 Roost Trees CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Union Site
RIVER
B A K E R
22
22
600
650
650
650
600
700
700
UNION ROAD
N
0
400
800
1,200
1,600
2,000
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Union Site
Payton
Union
Godsey
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St
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Sn
Wr
PrC
PrD
PrE
PrB
AfC2
BfG
Wa
AfB
HkF
Wu
Ar
MeA
Ro
OcA
PrA
N
0
400
800
1,200
1,600
2,000
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Ar - Armiesburg silty clay loam

Component: Armiesburg (100%)

The Armiesburg component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Ge - Genesee silt loam

Component: Genesee (100%)

The Genesee component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Sh - Shoals silt loam

Component: Shoals (90%)

The Shoals component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Appendix P

Big Bend Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Big Bend

Location description:

This site is located on the south bank of the White River just south of the Burkhart Creek convergence with the White River.

Focus Area

- ☑ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 99 Acres

Preservation Only: 97 Acres

Construction (Forest/Stream/Wetland): 2 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 36 Acres

Future Core Forest: 41 Acres

Property description:

There are no stream improvements or wetland development proposed for this site. However, wetland credits are possible. This property is located very close to a number of Indiana bat roost trees and near the epicenter for the Bryant Creek Maternity Colony. It is adjacent to the West Fork of the White River.

Special notes:

This property is within the Upper White River Watershed (#05120201). It is within the Bryant Creek Maternity Colony Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

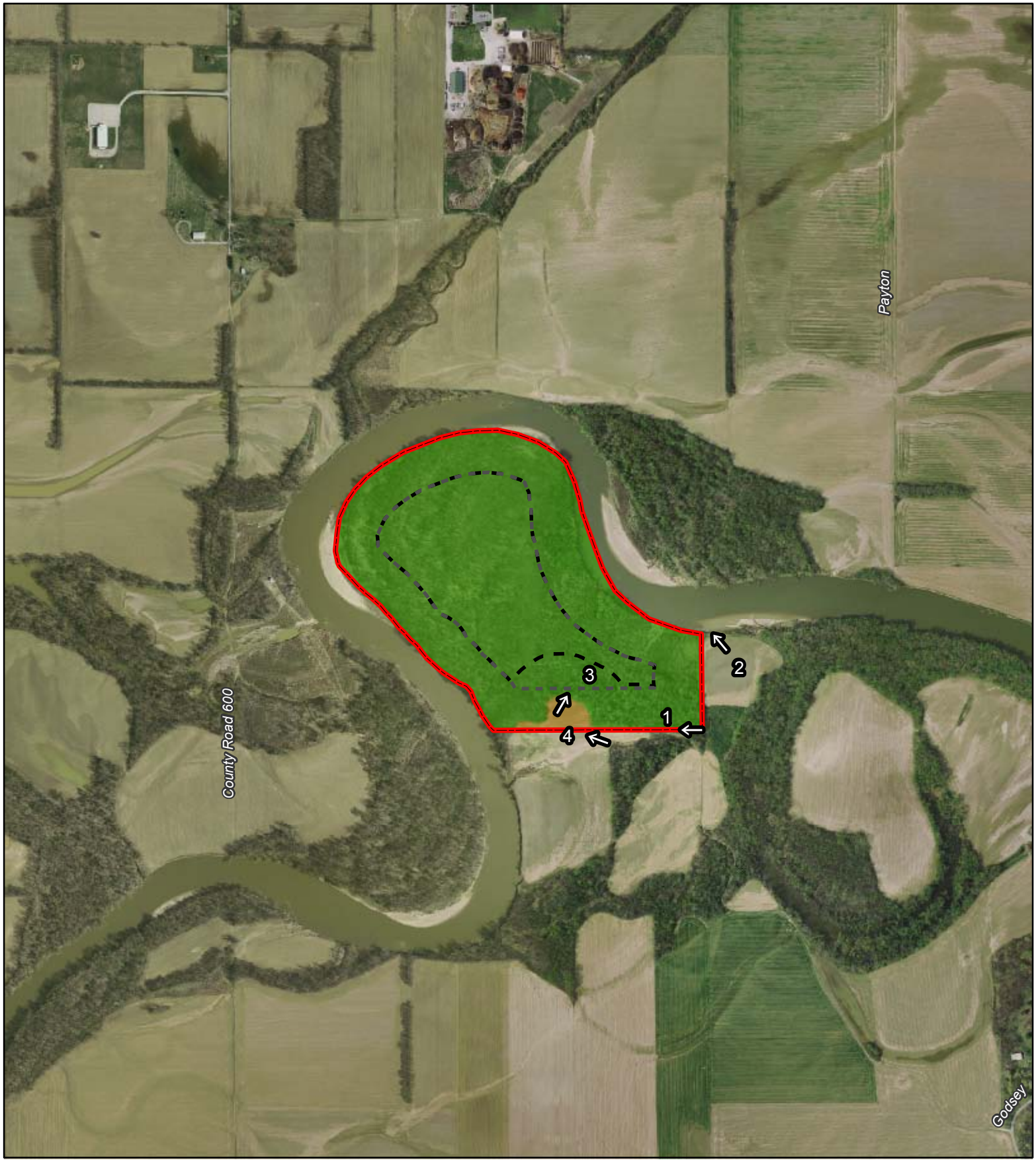


Photo Locations and Direction
Mitigation Area (99 Acres)
Future Core Forest (41 Acres)
Existing Core Forest (36 Acres)
Potential Preservation Area (97 Acres)
Potential Reforestation Area (2 Acres)
I-69 Section 5 ROW

Big Bend Site
Detailed Property Map
Shown on 2011 Aerial Photo
Baker Township - Morgan County, Indiana

1 inch = 1,000 feet

0 500 1,000 1,500 Feet

N

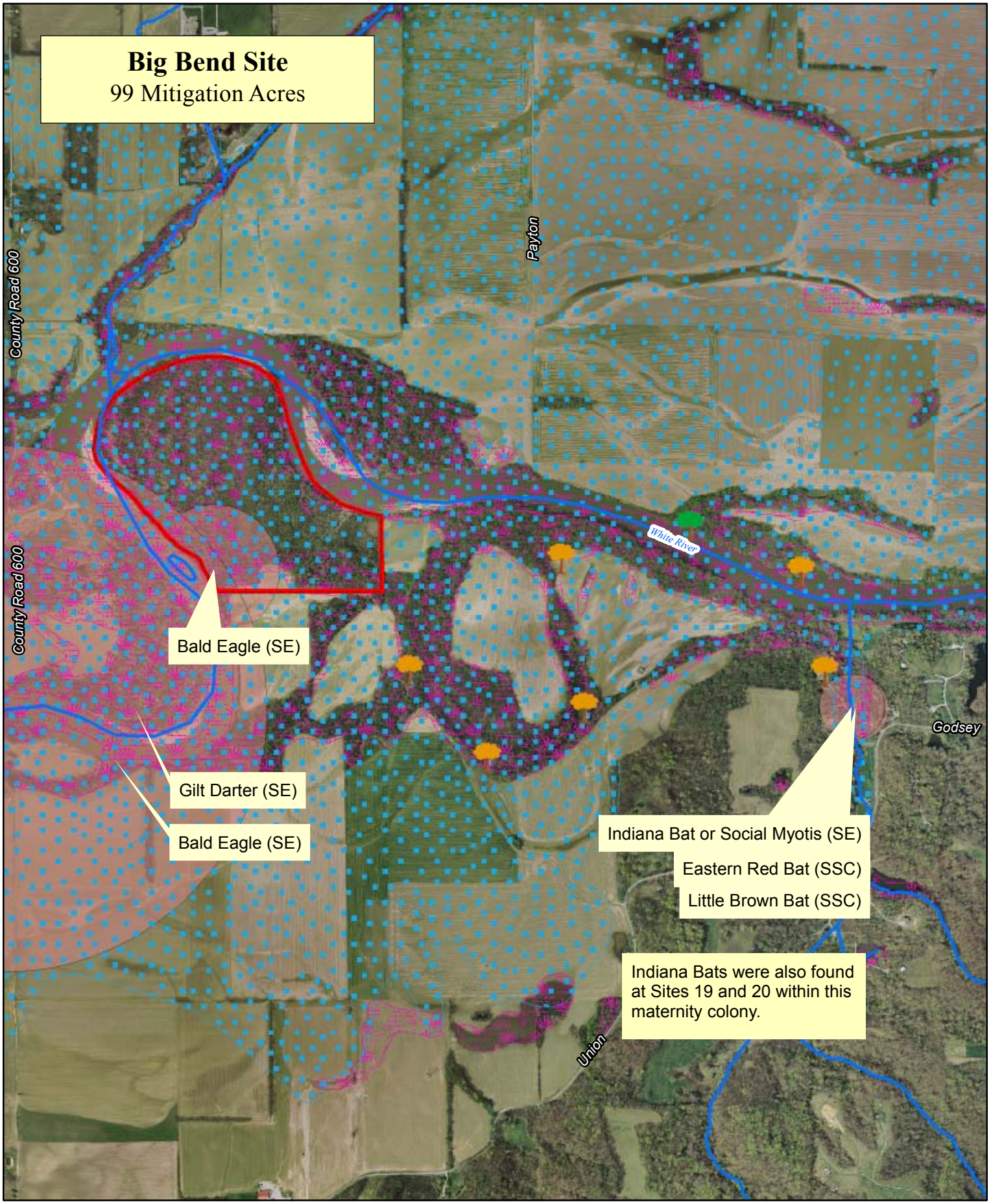
Big Bend Site Photos

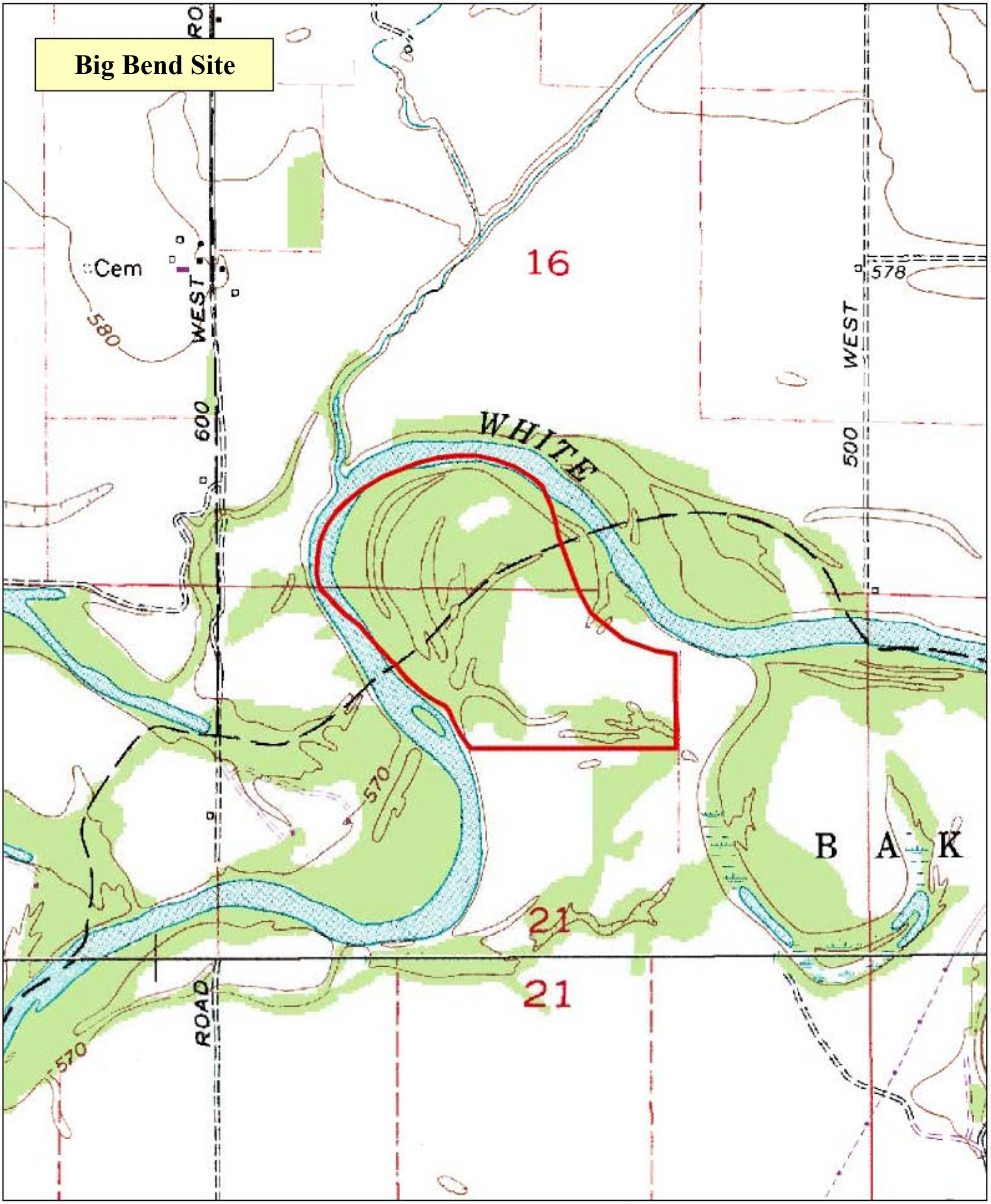
Photo 1: Field access road through woods

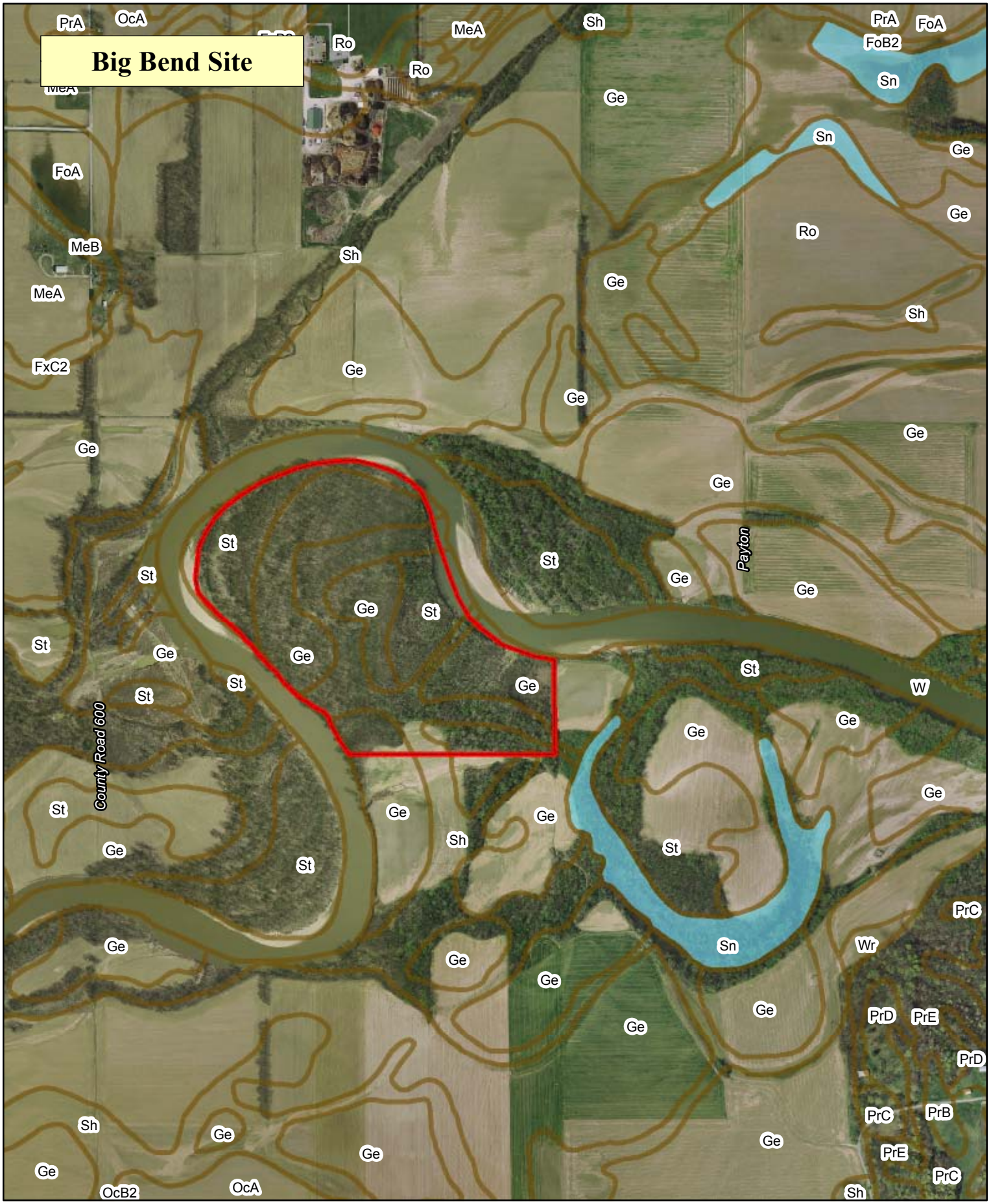
Photo 2: Typical wooded area

Photo 3: Bank of White River

Photo 4: Typical agriculture field


Big Bend Site
99 Mitigation Acres
County Road 600
County Road 600
Payton
White River
Godsey
Union
Bald Eagle (SE)
Gilt Darter (SE)
Bald Eagle (SE)
Indiana Bat or Social Myotis (SE)
Eastern Red Bat (SSC)
Little Brown Bat (SSC)
Indiana Bats were also found at Sites 19 and 20 within this maternity colony.
CONFIDENTIAL
N
0 600 1,200 1,800 2,400 3,000
Feet
Endangered Species CONFIDENTIAL
2012 Roost Tree CONFIDENTIAL
2004, 2005 Roost Trees CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Big Bend Site
Cem
16
WEST
600
580
WHITE
WEST
500
578
570
B A K
21
21
ROAD
570
N
0 400 800 1,200 1,600 2,000 2,400
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (4,244 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Big Bend Site
PrA
OcA
MeA
Ro
Sh
PrA
FoA
FoB2
Sn
Ge
FoA
MeB
MeA
FxC2
St
Payton
County Road 600
W
PrC
Wr
PrD
PrE
PrB
OcB2
OcA
N
0 400 800 1,200 1,600 2,000 2,400
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Ge - Genesee silt loam

Component: Genesee (100%)

The Genesee component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: Sh - Shoals silt loam

Component: Shoals (90%)

The Shoals component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: St - Stonelick sandy loam

Component: Stonelick (100%)

The Stonelick component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 20 percent.

Map unit: W - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Appendix Q

Bryant Creek Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Bryant Creek

Location description:

This site is located east and southeast of the intersection of Paragon Road and Bryant Creek Road in Morgan County.

Focus Area

- ☑ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☑ Conservation Easement ☐ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 27 Acres

Preservation Only: 15 Acres

Construction (Forest/Stream/Wetland): 12 Acres

Stream Development/Restoration: _____ CŜŜú

Existing Core Forest: 7 Acres

Future Core Forest: 8 Acres

Property description:

The Bryant Creek property is an agricultural, riparian and forested parcel with Bryant Creek flowing through it. Of the reforestation, the majority is development of a riparian buffer for Bryant Creek. No wetland development is planned for this site. The property is hilly showing oak and hickory woods, and beech maple forests depending upon aspect. The timber is mature and from the size of the trees, understory and ground cover is limited.

Special notes:

The property is within the Upper White River (#05120201) watershed, and has Bryant Creek flowing through it. It is also located within the Bryant Creek Maternity Colony Focus Area, immediately downstream of an Indiana bat capture site.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

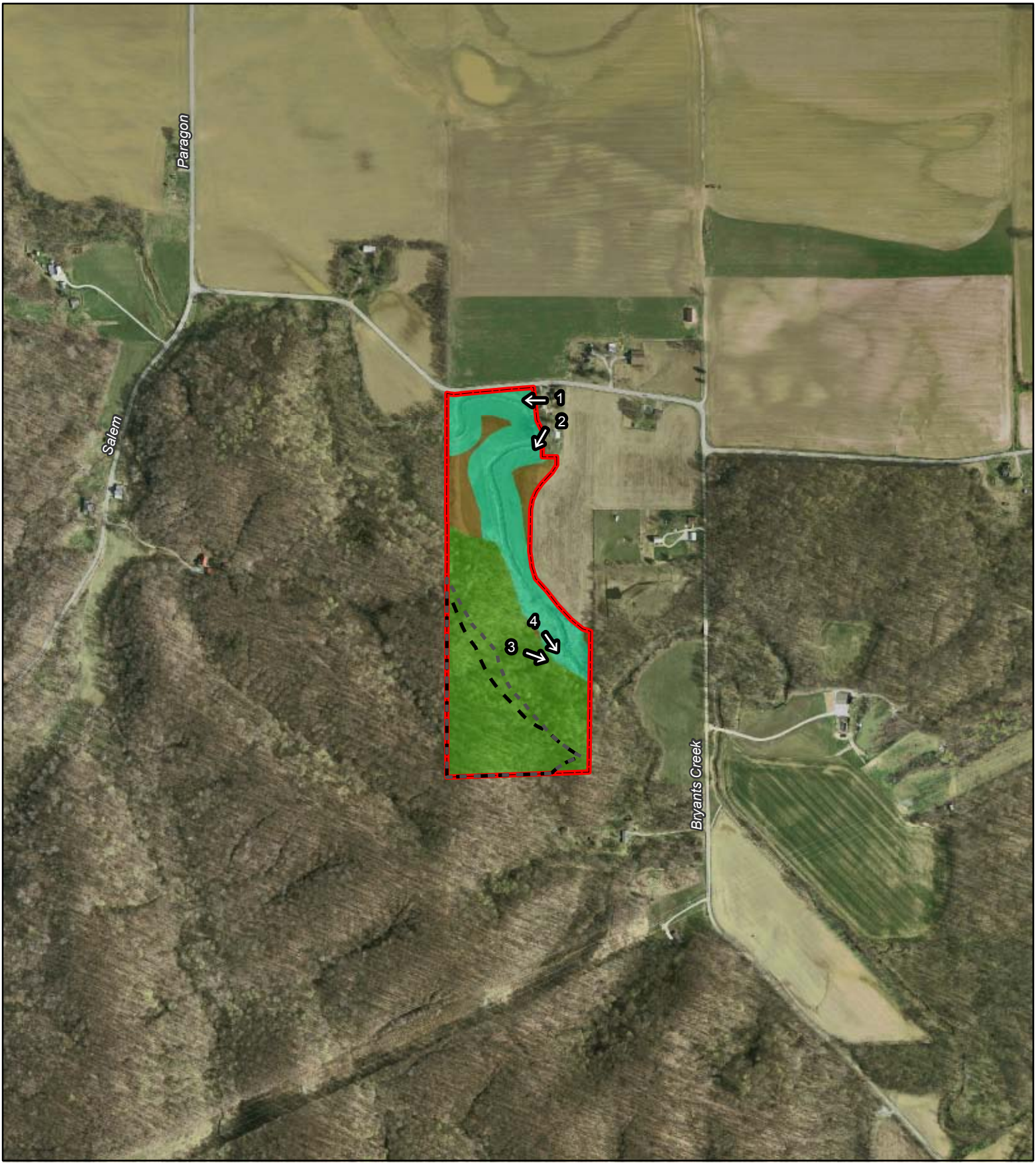


Photo Locations and Direction
I-69 Section 5 ROW
Future Core Forest (8 Acres)
Existing Core Forest (7 Acres)
Mitigation Area (27 Acres)
Potential Preservation Area (15 Acres)
Potential Reforestation Area (3 Acres)
Potential Riparian Area (9 Acres)

Bryant Creek site
Detailed Property Map
Shown on 2011 Aerial Photo
Baker Township - Morgan County, Indiana

1 inch = 667 feet

0 500 1,000 Feet

N

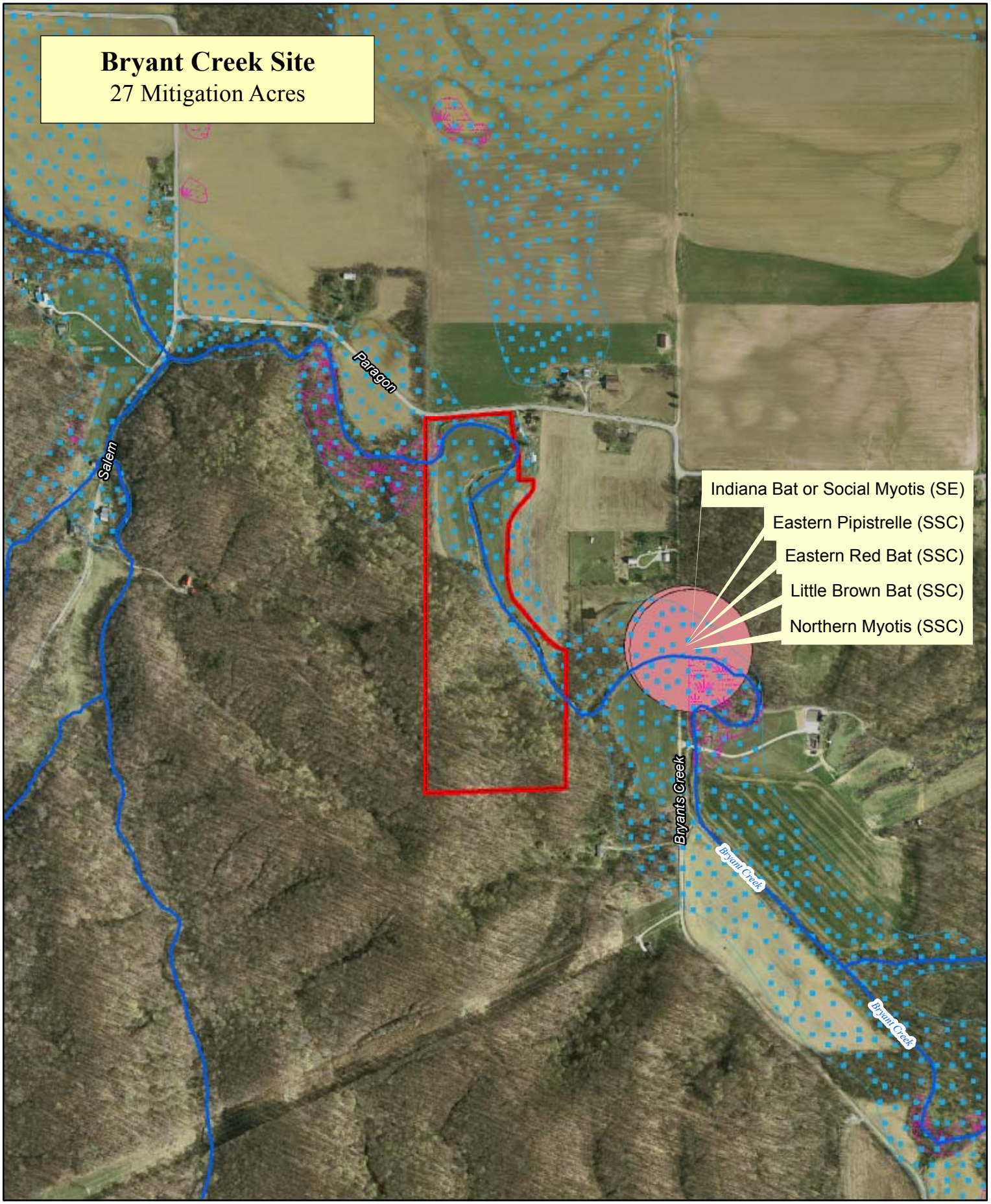
Bryant Creek Site Photos

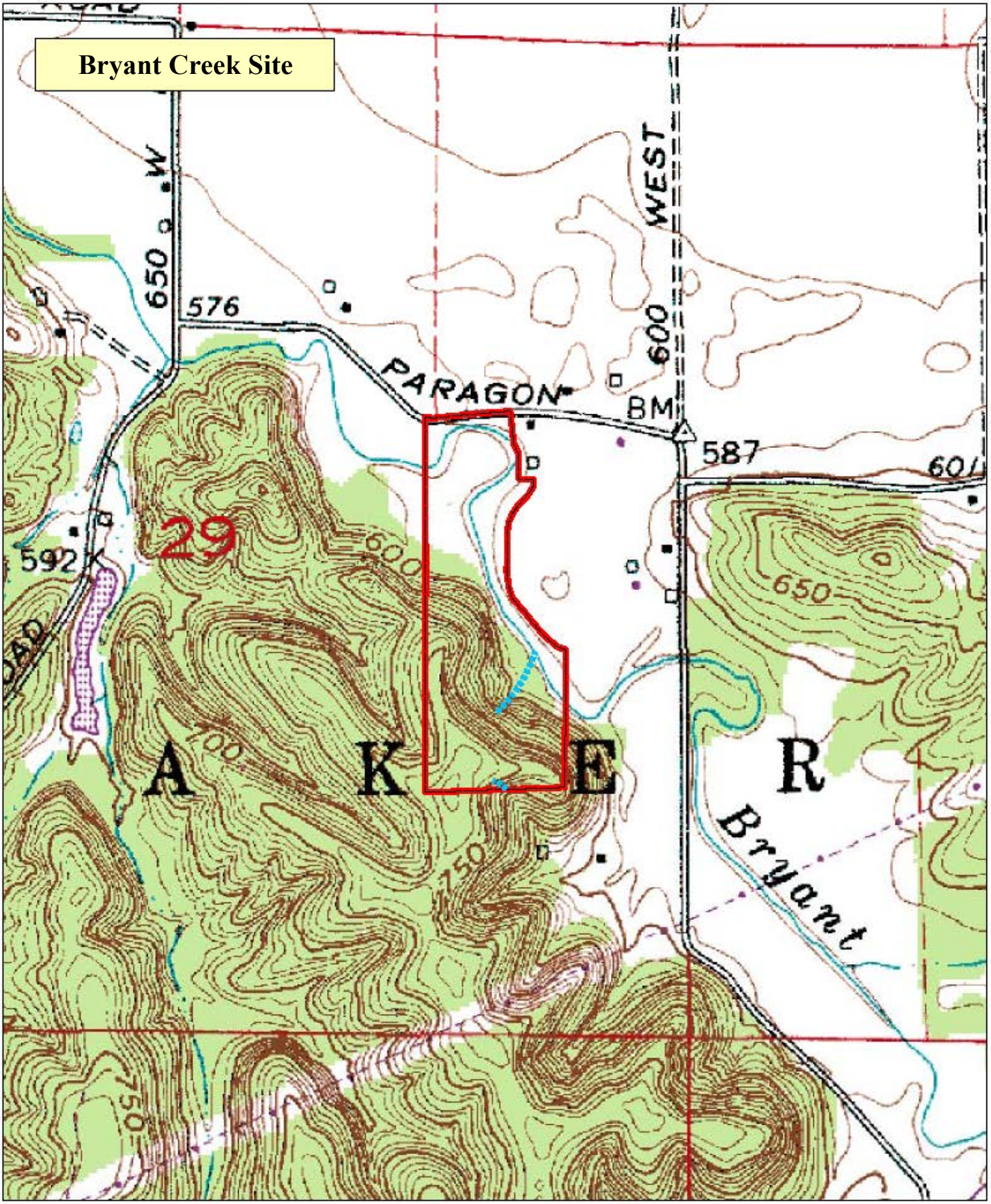
Photo 1: Field with Bryant Creek

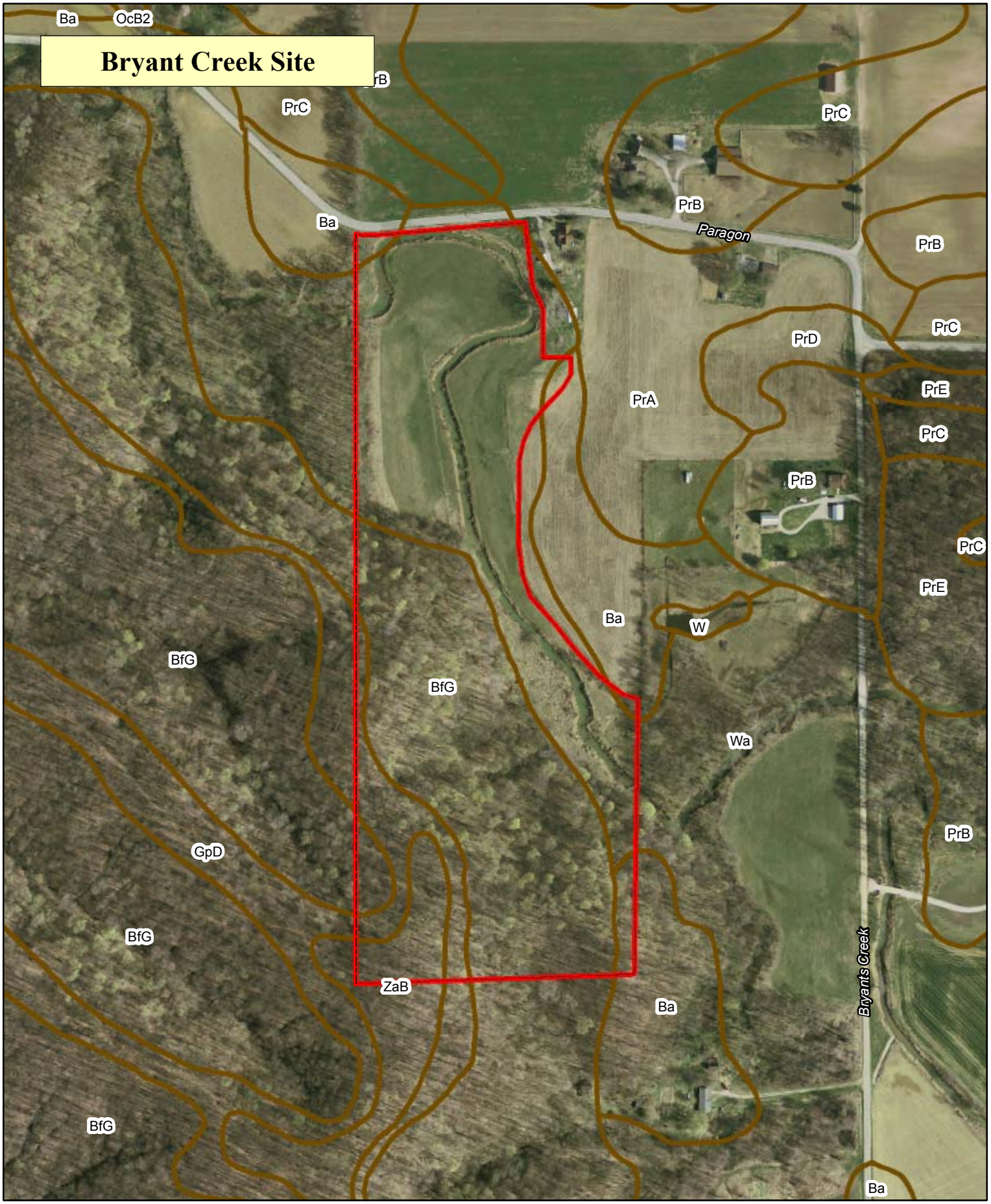
Photo 2: Streambed of Bryant Creek

Photo 3: Typical Wooded Area

Photo 4: Fallow Field


Bryant Creek Site
27 Mitigation Acres
Paragon
Salem
Indiana Bat or Social Myotis (SE)
Eastern Pipistrelle (SSC)
Eastern Red Bat (SSC)
Little Brown Bat (SSC)
Northern Myotis (SSC)
Bryants Creek
Bryant Creek
Bryant Creek
CONFIDENTIAL
N
0
400
800
1,200
1,600
Feet
Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Bryant Creek Site
650 W
576
WEST
600
PARAGON
BM
587
592
29
600
650
700
750
A K E R
Bryant
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (2,131 Linear Ft)
Ephemeral Stream (466 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Bryant Creek Site
Ba
OcB2
PrC
PrB
Paragon
PrD
PrA
PrE
W
BfG
Wa
GpD
ZaB
Bryants Creek
N
0
400
800
Feet
Mitigation Area
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Ba - Banlic silt loam

Component: Banlic (90%)

The Banlic component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: BfG - Berks channery silt loam, 35 to 80 percent slopes

Component: Berks (100%)

The Berks component makes up 100 percent of the map unit. Slopes are 35 to 80 percent. This component is on hills. The parent material consists of loamy-skeletal residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: GpD - Gilpin silt loam, 12 to 18 percent slopes

Component: Gilpin (100%)

The Gilpin component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: PrA - Princeton fine sandy loam, 0 to 2 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

Map unit: Wa - Wakeland silt loam

Component: Wakeland (100%)

The Wakeland component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: ZaB - Zanesville silt loam, 2 to 6 percent slopes

Component: Zanesville (100%)

The Zanesville component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of loess over loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 50 to 90 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Appendix R

Paragon Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Paragon

Location description:

This site is located in Morgan County, south of the White River in Baker Township. The parcels are north of Paragon Road, north of Union Road, and along Bryants Creek Road.

Focus Area

- ☑ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 199 Acres

Preservation Only: 28 Acres

Construction (Forest/Stream/Wetland): 171 Acres

Stream Development/Restoration: _____ CŜŜú

Existing Core Forest: 2 Acres

Future Core Forest: 35 Acres

Property description:

The property includes large tracts of farmland adjacent to the West Fork of the White River. Stream development is not planned at this site. The property showed excellent bottomland forests and fields for planting trees. It is flat showing bottomland tree species of cottonwood, silver and red maple, sycamore and American Elm. The timber is reasonably mature depending on location and from the size of some trees and flooding, understory and ground cover is limited. All fields are buffered from the river by existing bottomland woods.

Special notes:

The property is within the Upper White River (#05120201) watershed, and is adjacent to the West Fork of the White River. It is also within the Bryant Creek Maternity Colony Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

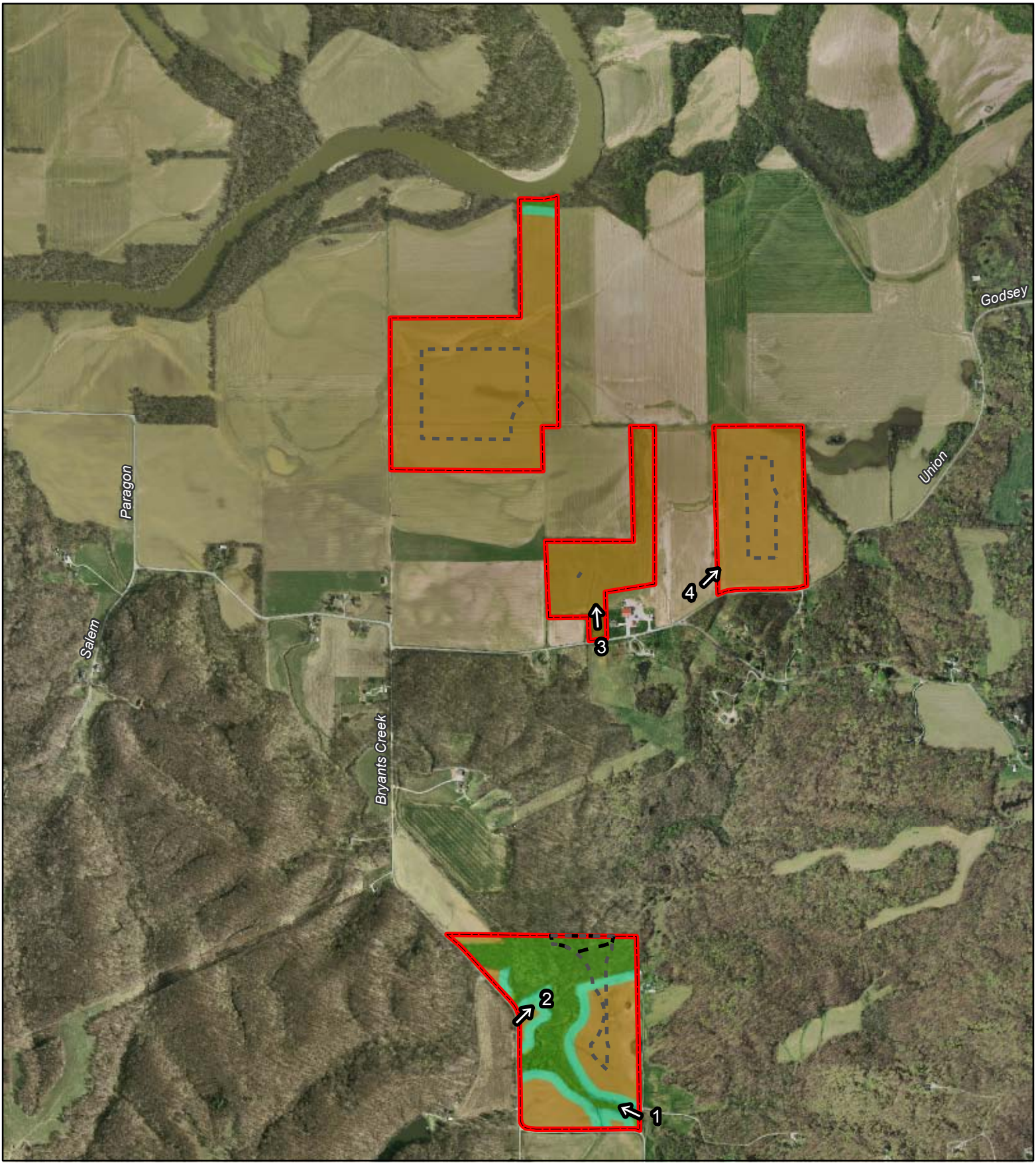


Photo Locations and Direction
Future Core Forest (35 Acres)
Existing Core Forest (2 Acres)
Mitigation Area (199 Acres)
Potential Preservation Area (28 Acres)
Potential Reforestation Area (158 Acres)
Potential Riparian Area (13 Acres)
I-69 Section 5 ROW

Paragon Site
Detailed Property Map
Shown on 2011 Aerial Photo
Baker Township - Morgan County, Indiana

1 inch = 1,333 feet

0 500 1,000 1,500 2,000 Feet

N

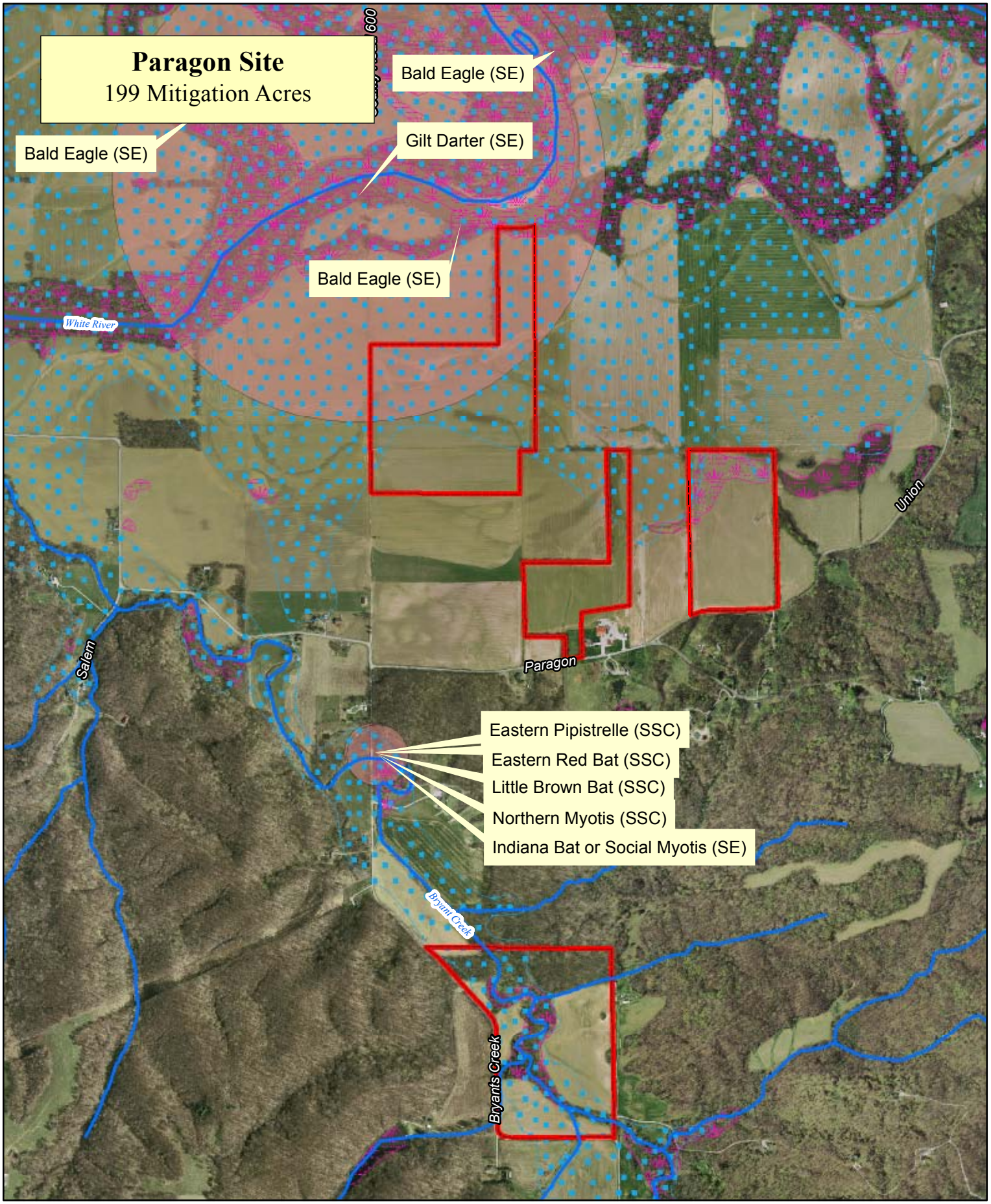
Paragon Site Photos

Photo 1: Bryant Creek looking Downstream

Photo 2: Typical Field adjacent to Bryant Creek

Photo 3: Typical Agricultural Field in Background

Photo 4: Typical Agricultural Field

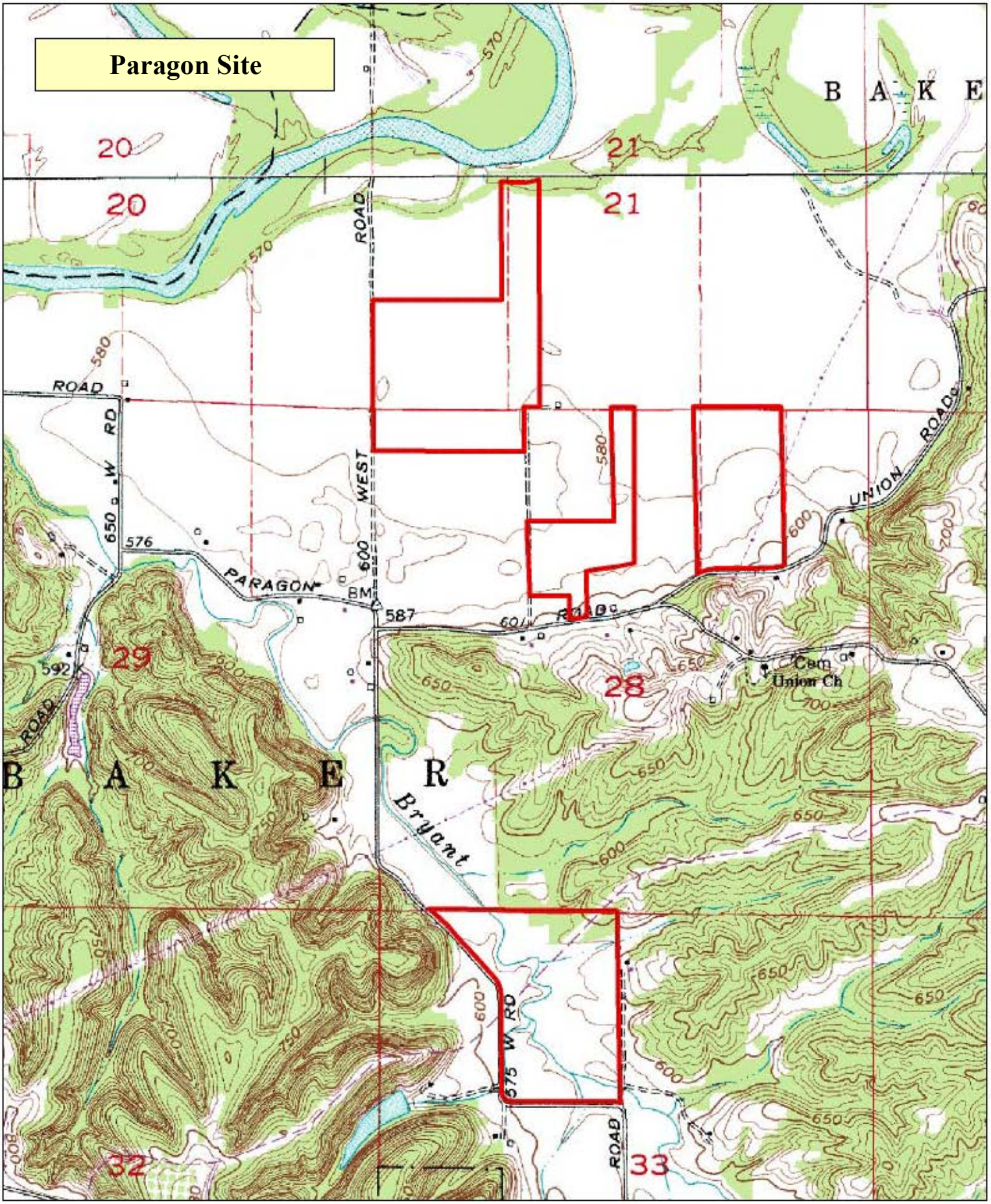


CONFIDENTIAL

N

0 1,000 2,000 3,000 Feet

- Kast Springs (Section 5)
- Mitigation Area
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- Endangered Species CONFIDENTIAL
- I-69 Section 5 ROW



N

0 1,000 2,000 3,000 Feet

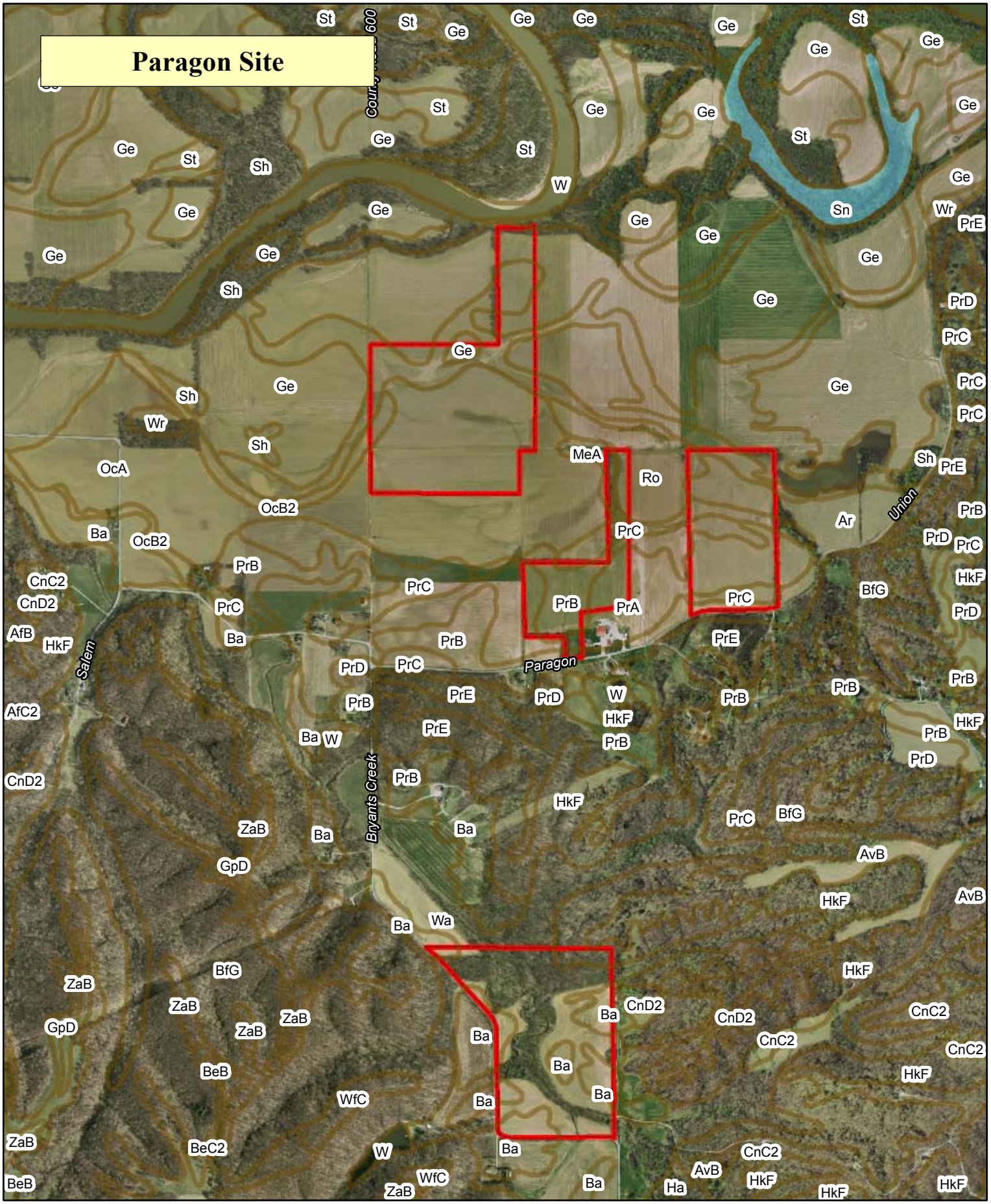
Intermittent Stream (856 Linear Ft)

Perennial Stream (4,707 Linear Ft)

Ephemeral Stream (0 Linear Ft)

Mitigation Area

I-69 Section 5 ROW


Paragon Site
Paragon
Salem
Bryants Creek
Union
County Road 600
St
Ge
Sh
W
Sn
Wr
PrE
PrD
PrC
MeA
Ro
PrA
PrB
OcA
OcB2
Ba
CnC2
CnD2
HkF
BfG
AfB
AfC2
Wa
ZaB
GpD
BeB
WfC
BeC2
Ha
AvB
0
1,000
2,000
3,000
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Morgan County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Ar - Armiesburg silty clay loam

Component: Armiesburg (100%)

The Armiesburg component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: AvB - Ava silt loam, 2 to 6 percent slopes

Component: Ava (100%)

The Ava component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on till plains. The parent material consists of loess over loamy till. Depth to a root restrictive layer, fragipan, is 25 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: Ba - Banlic silt loam

Component: Banlic (90%)

The Banlic component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, May, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: Ge - Genesee silt loam

Component: Genesee (100%)

The Genesee component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent.

Map unit: HkF - Hickory loam, 18 to 50 percent slopes

Component: Hickory (100%)

The Hickory component makes up 100 percent of the map unit. Slopes are 18 to 50 percent. This component is on till plains. The parent material consists of loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: MeA - Martinsville loam, 0 to 2 percent slopes

Component: Martinsville (100%)

The Martinsville component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces. The parent material consists of loamy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

Map unit: OcA - Ockley loam, 0 to 2 percent slopes

Component: Ockley (100%)

The Ockley component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 40 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 18 percent.

Map unit: OcB2 - Ockley loam, 2 to 6 percent slopes, eroded

Component: Ockley (100%)

The Ockley component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on outwash plains. The parent material consists of loamy outwash over sandy and gravelly outwash. Depth to a root restrictive layer, strongly contrasting textural stratification, is 40 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 18 percent.

Map unit: PrA - Princeton fine sandy loam, 0 to 2 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

Map unit: PrB - Princeton fine sandy loam, 2 to 6 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Morgan County, Indiana

Map unit: PrC - Princeton fine sandy loam, 6 to 12 percent slopes

Component: Princeton (100%)

The Princeton component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on dunes. The parent material consists of eolian sands. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Ro - Ross loam

Component: Ross (100%)

The Ross component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: Sh - Shoals silt loam

Component: Shoals (90%)

The Shoals component makes up 90 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 15 percent.

Map unit: Wa - Wakeland silt loam

Component: Wakeland (100%)

The Wakeland component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix S

Chambers Pike Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Chambers Pike

Location description:

This property is located just east of Chambers Pike just north of the Chambers Pike and SR 37 intersection.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☑ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: State owned

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 3 Acres

Preservation Only: _____ Acres

Construction (Forest/Stream/Wetland): 3 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 0 Acres

Future Core Forest: <1 Acres

Property description:

There are no stream improvements or wetland development opportunities. It is located adjacent to the Morgan Monroe State Forest. It has excellent mature timber on the property (including shagbark hickory) and an existing house. The State of Indiana currently owns this property.

Special notes:

This property is within the Upper White River Watershed (#05120201). It is within the Morgan Monroe State Forest Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

Photo Locations and Direction
Existing Core Forest (0 Acres)
Future Core Forest (<1 Acre)
Mitigation Area (3 Acres)
Potential Reforestation Area (3 Acres)
I-69 Section 5 ROW

Chambers Pike Site
Detailed Property Map
Shown on 2011 Aerial Photo
Washington Township - Monroe County, Indiana

1 inch = 500 feet

0 200 400 600 Feet

N

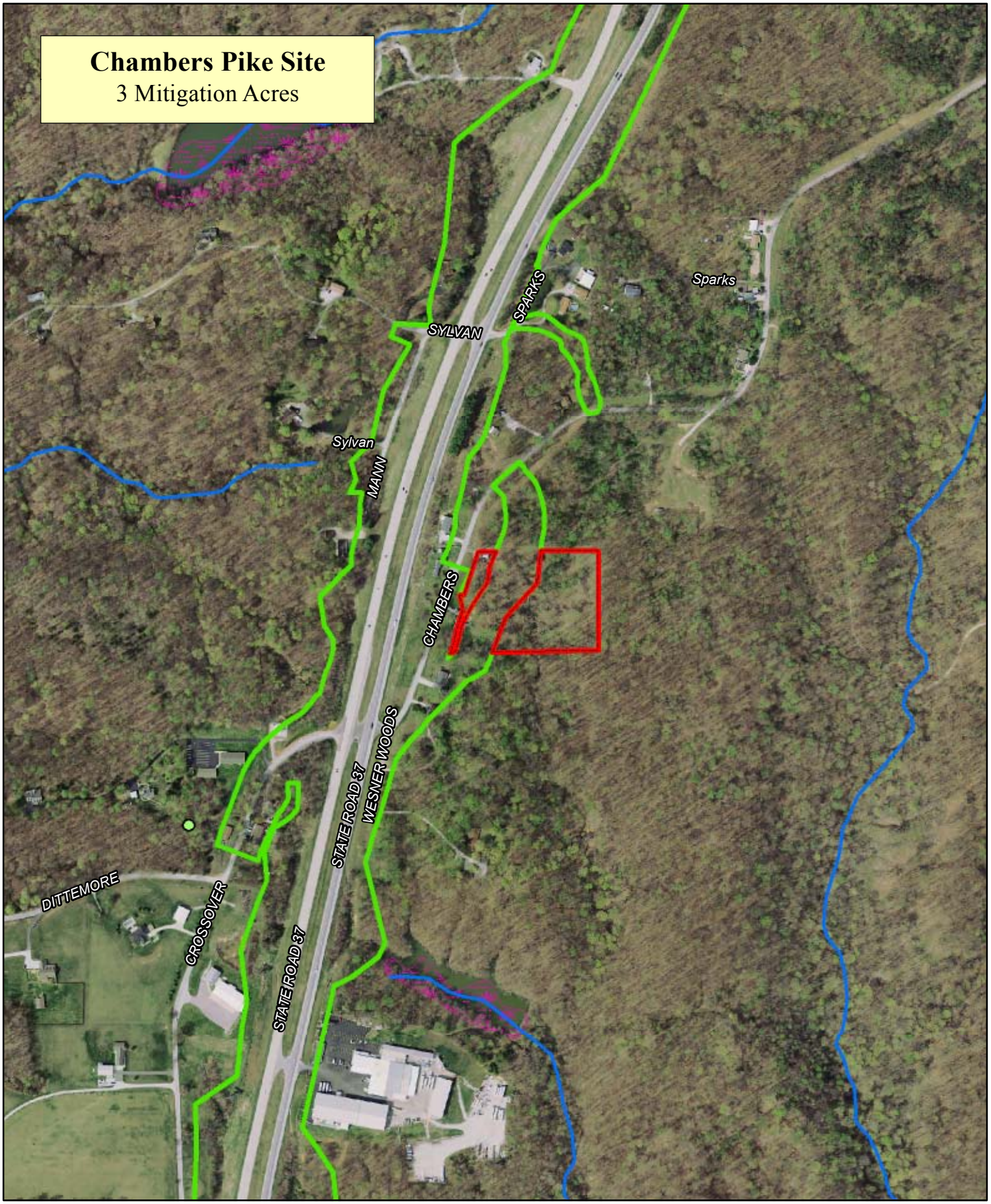
Chambers Pike Site Photos

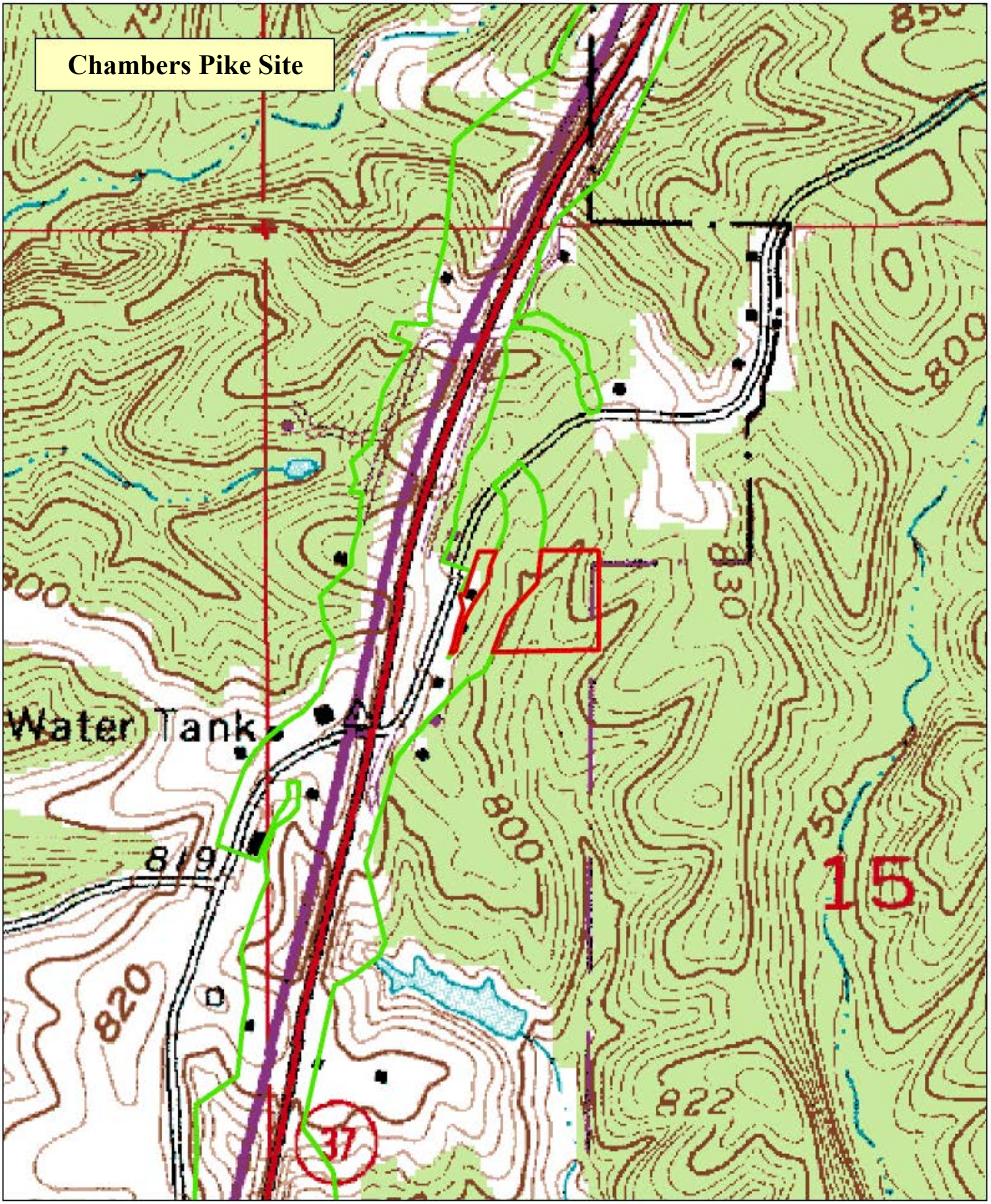
Photo 1: North of house on property

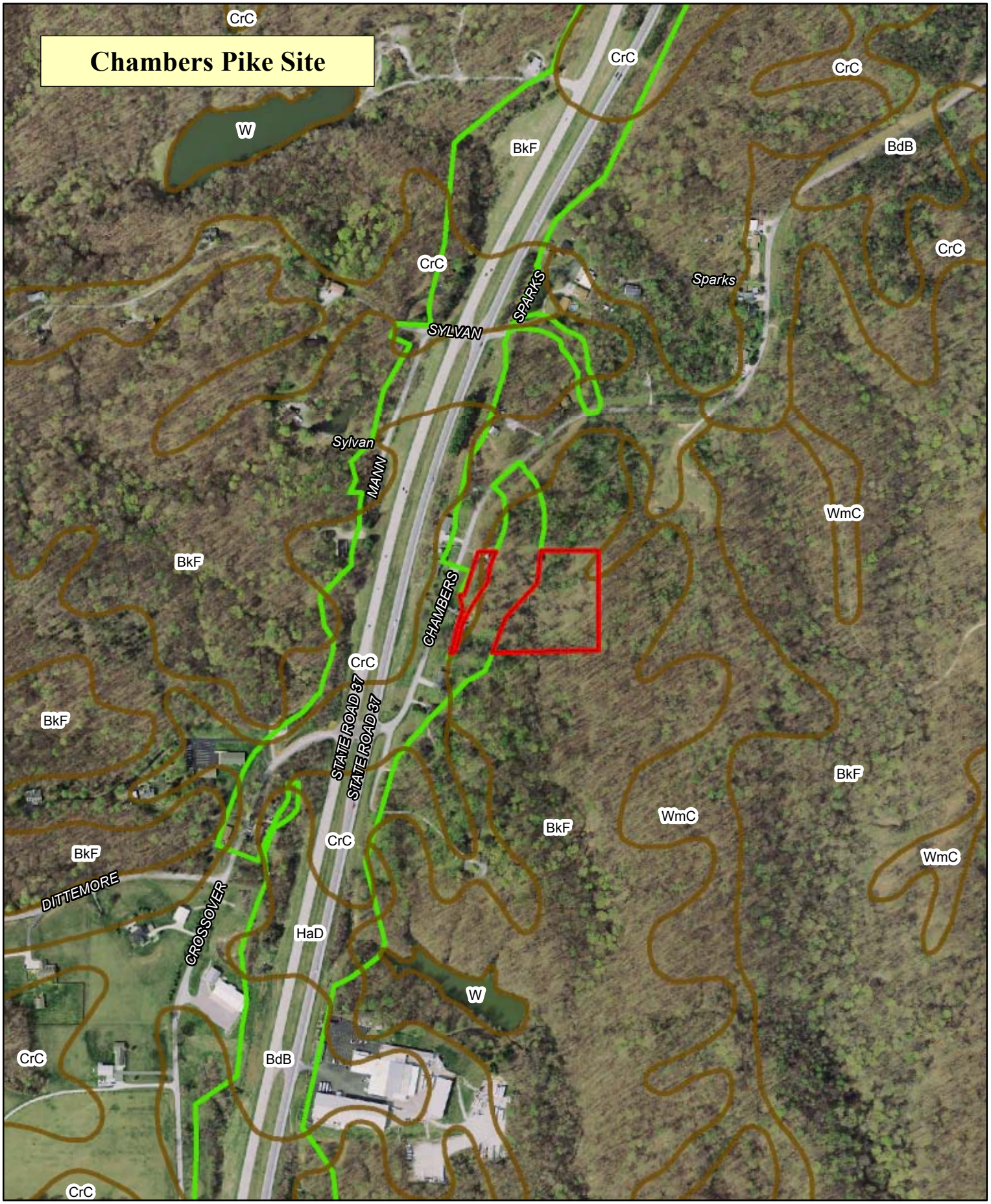
Photo 2: Behind house on property

Photo 3: House on property

Photo 4: South of house on property


Chambers Pike Site
3 Mitigation Acres
SYLVAN
SPARKS
Sparks
Sylvan
MANN
CHAMBERS
WESNER WOODS
STATE ROAD 37
DITTEMORE
CROSSOVER
STATE ROAD 37
CONFIDENTIAL
N
0
400
800
1,200
Feet
Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Chambers Pike Site
Water Tank
850
800
830
800
750
819
820
822
15
37
N
0
400
800
1,200
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream 0 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Chambers Pike Site
CrC
W
BkF
BdB
Sparks
SPARKS
SYLVAN
Sylvan
MANN
WmC
CHAMBERS
STATE ROAD 37
DITTEMORE
CROSSOVER
HaD
N
0
400
800
1,200
Feet
Mitigation Area
I-69 Section 5 ROW
Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BdB - Bedford silt loam, 2 to 6 percent slopes

Component: Bedford (100%)

The Bedford component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of Loess, loamy material, and a paleosol in clayey residuum. Depth to a root restrictive layer, fragipan, is 20 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: WmC - Wellston-Gilpin silt loams, 6 to 20 percent slopes

Component: Wellston (60%)

The Wellston component makes up 60 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of Thin loess and residuum. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 72 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 5 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Gilpin (40%)

The Gilpin component makes up 40 percent of the map unit. Slopes are 12 to 20 percent. This component is on structural benches. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Appendix T

Canyon Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Canyon

Location description:

This property is located on the west side of SR 37 just south of the SR 37 and Sample Road intersection. The site is located southwest of the 90 degree corner on Sample Road as you travel west from SR 37.

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Focus Area

☐ Bryant Creek Maternity Colony
☑ Beanblossom Bottoms
☐ Morgan-Monroe State Forest
☐ Maple Grove Road Rural Historic District
☐ Other

Total Mitigation Area: 10 Acres

Preservation Only: 10 Acres

Construction (Forest/Stream/Wetland): _____ Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 3 Acres

Future Core Forest: 3 Acres

Property description:

There are no stream improvements or wetland development opportunities on this property. It includes an excellent forest with many species of trees and steep (rocky) slopes. A clear riffle and pool creek is included in this property. It is highly dissected with big beech trees and much rock exposed. For any stream mitigation, the steep slopes make it impossible to get machinery to the stream. The creek has bank problems though. The creek is very clear with riffle and pools. There are bank cuts are at high energy bends. The creek appears to be a flashy creek at times which is not unusual in karst topography.

Special notes:

This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area. Stream flows southward to Modesto Site and then Beanblossom Creek.

☑ 1. Initial contact
☑ 2. Information gathering
☑ 3. Initial meeting with property owner
☑ 4. Property owner agrees to completion of an appraisal
☑ 5. Begin CE
☐ 6. Site concept with property owner/Preliminary boundary research
☐ 7. CE Approved (notify R/W so parcel can be appraised)
☐ 8. Release of funds by INDOT (project must be in STIP)
☐ 9. Begin R/W acquisition process (deed search and survey work)
☐ 10. Appraise property and send to INDOT (buyer)
☐ 11. INDOT presents offer to land owner
  ☐ a. Land owner agreed to "Fair Market Value"
  ☐ b. Land owner declined the offer
  ☐ c. Land owner made a counter offer
    ☐ i. INDOT agreed with counter offer
    ☐ ii. INDOT declined the negotiations
☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
☐ 14. Complete construction (5-10 year monitoring begins)

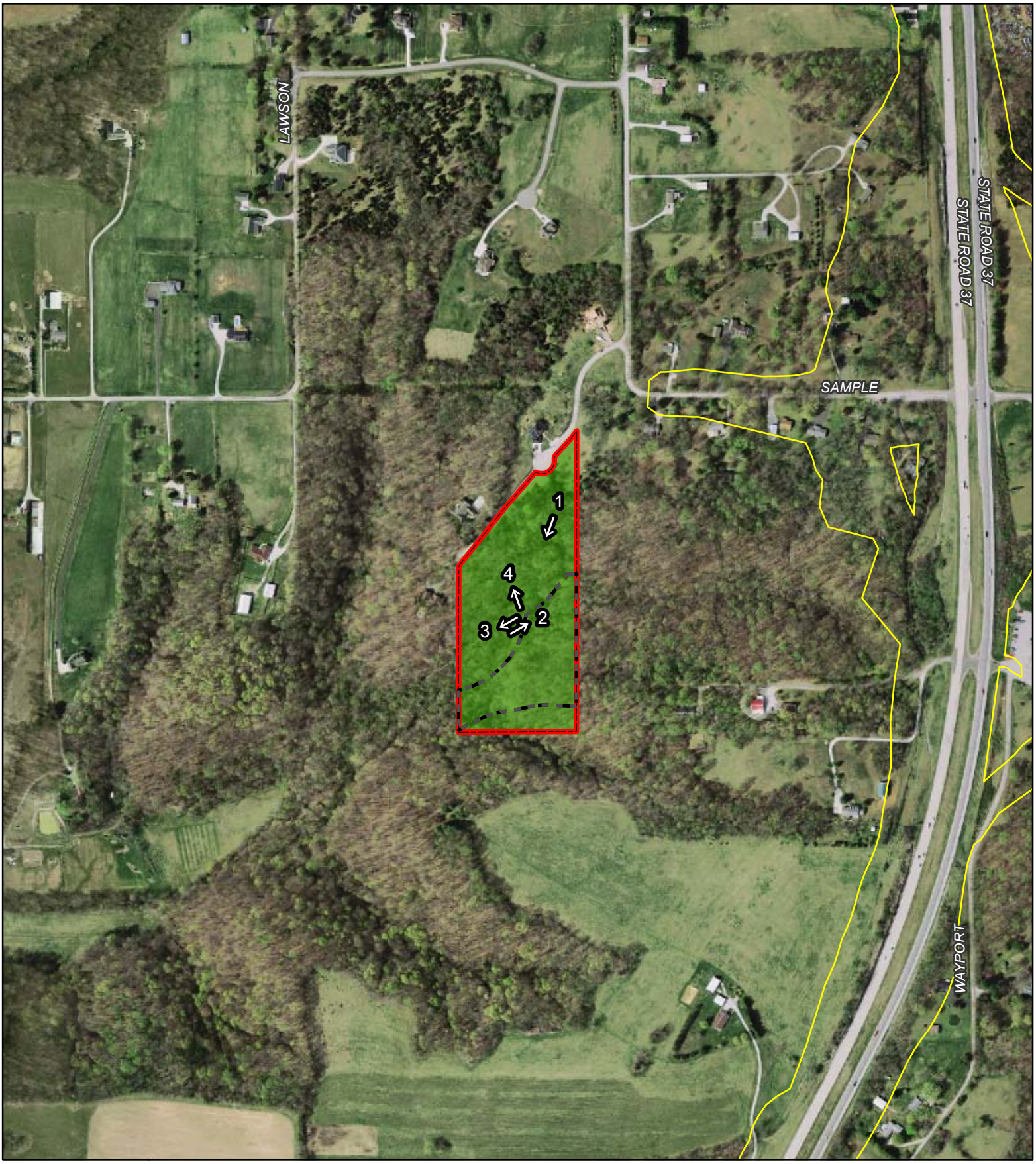


Photo Locations and Direction
Future Core Forest (3 Acres)
Existing Core Forest (3 Acres)
Mitigation Area (10 Acres)
Potential Preservation Area (10 Acres)
I-69 Section 5 ROW

Canyon Site
Detailed Property Map
Shown on 2011 Aerial Photo
Washington Township - Monroe County, Indiana

1 inch = 500 feet

0 200 400 600 Feet

N

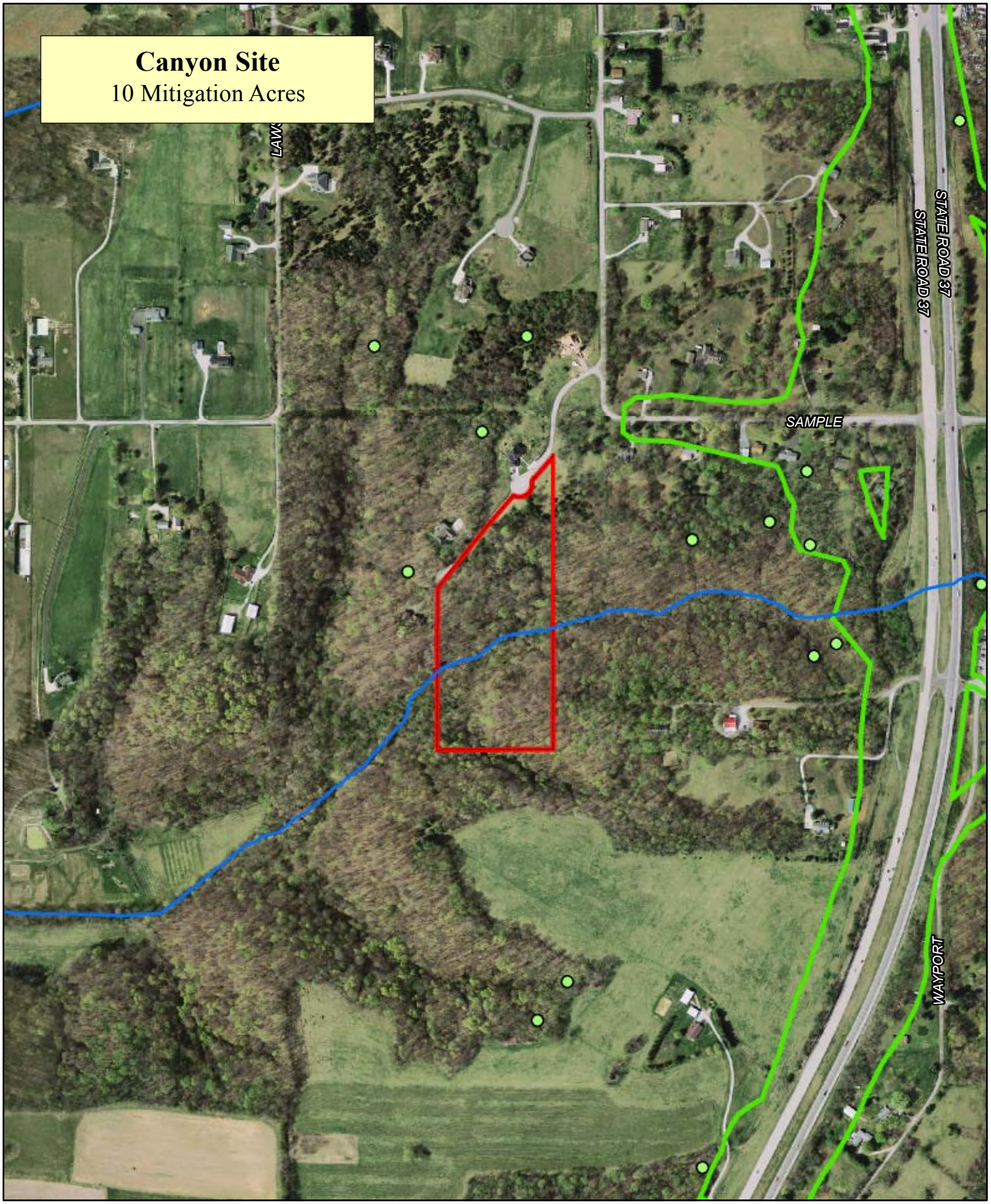
Canyon Site Photos

Photo 1: Typical forest area

Photo 2: Typical creek bed

Photo 3: Creek bed with steep hillside bank

Photo 4: Typical forested hillside



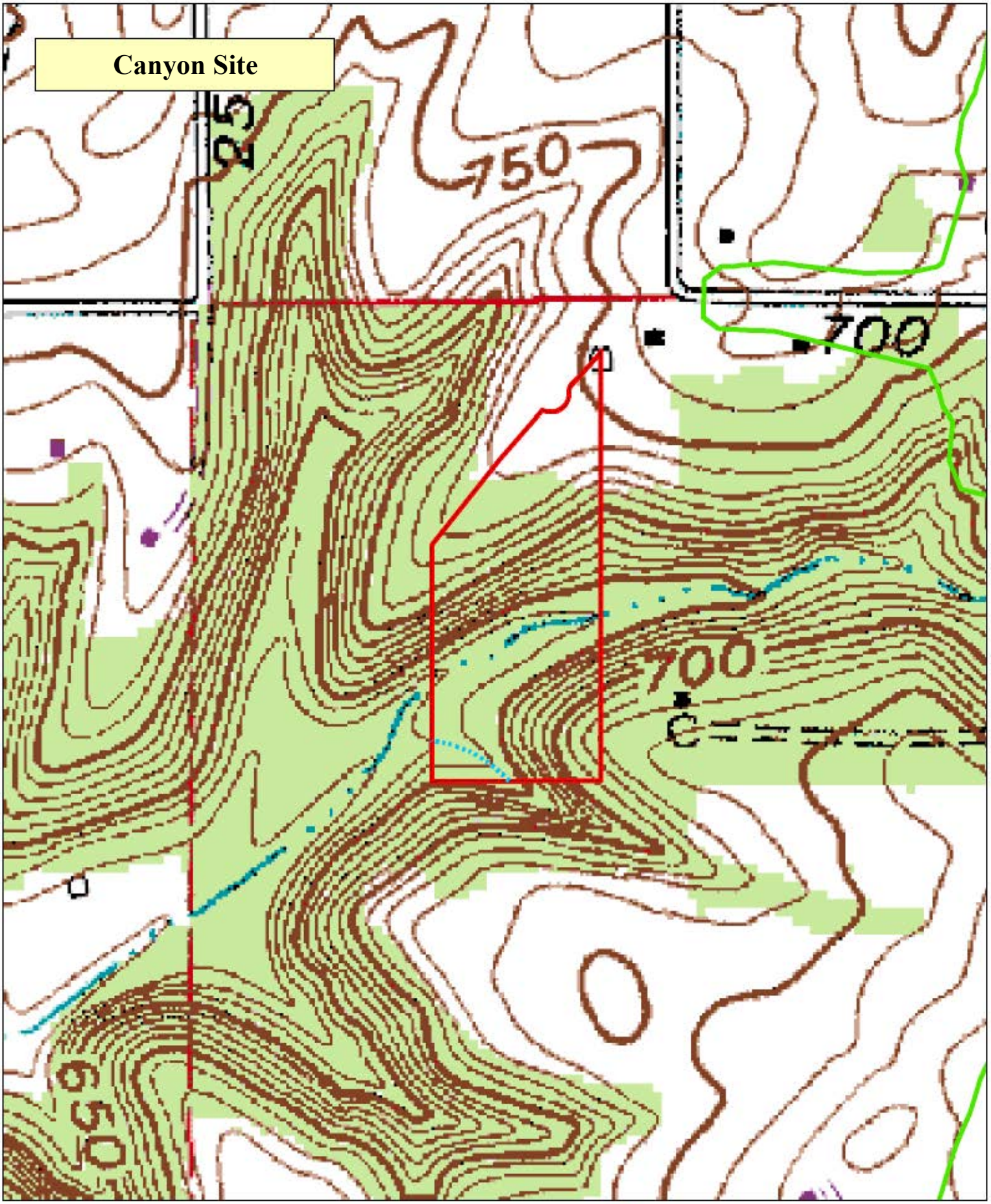
CONFIDENTIAL

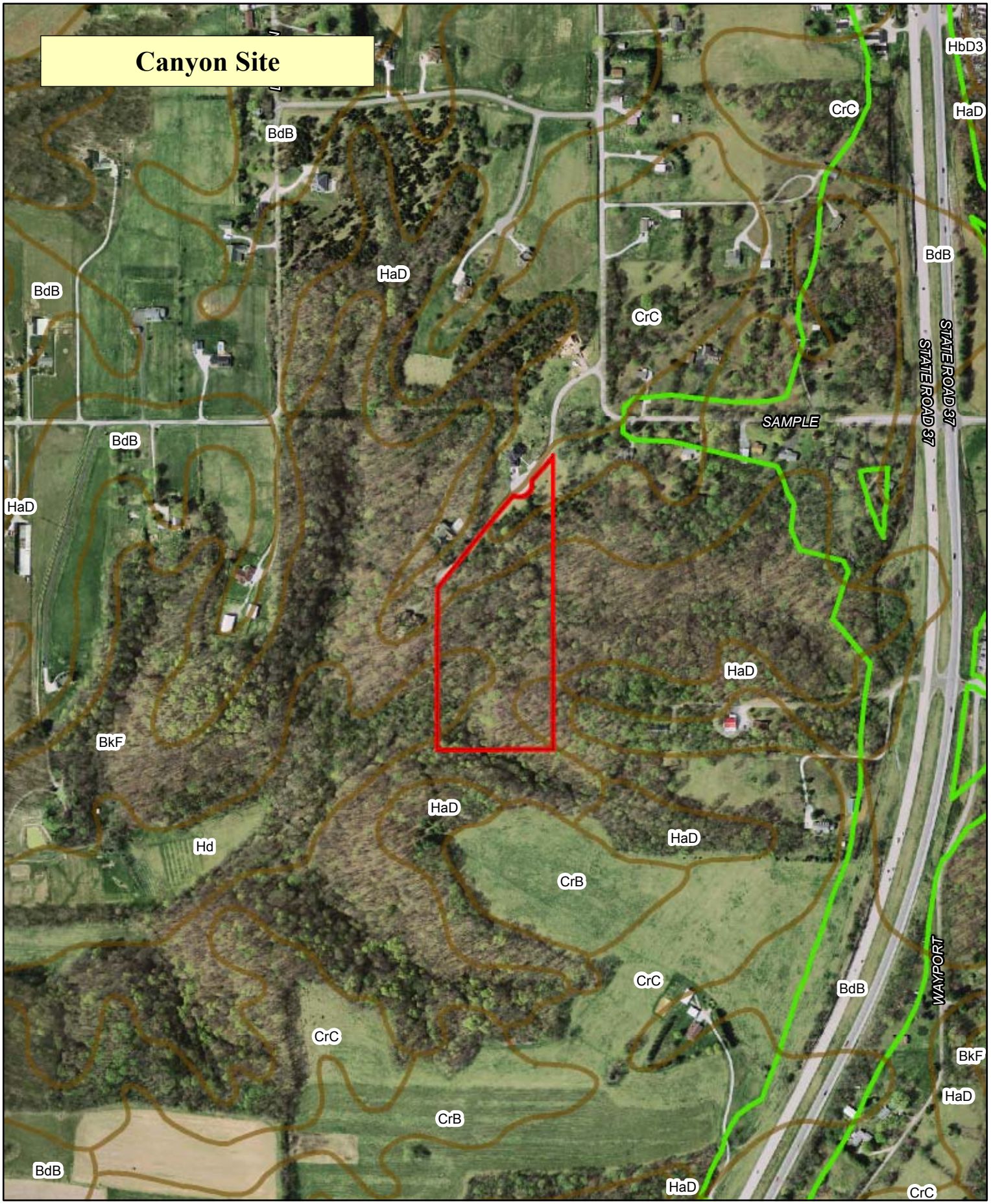
N

0 400 800 1,200

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Canyon Site
750
700
700
650
N
0
400
800
Feet
Intermittent Stream (502 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (247 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Canyon Site
HbD3
HaD
CrC
BdB
BdB
HaD
CrC
BdB
STATE ROAD 37
STATE ROAD 37
SAMPLE
BdB
HaD
HaD
BkF
HaD
Hd
HaD
CrB
CrC
BdB
WAYPORT
CrC
BkF
HaD
CrB
BdB
HaD
CrC
N
0
400
800
1,200
Feet
Mitigation Area
I-69 Section 5 ROW
Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BdB - Bedford silt loam, 2 to 6 percent slopes

Component: Bedford (100%)

The Bedford component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of Loess, loamy material, and a paleosol in clayey residuum. Depth to a root restrictive layer, fragipan, is 20 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix U

Stone Belt Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Stone Belt

Location description:

This property is located just west of SR 37 just to the north of the SR 37 and Wylie Road intersection.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 19 Acres

Preservation Only: 19 Acres

Construction (Forest/Stream/Wetland): _____ Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 1 Acres

Future Core Forest: 1 Acres

Property description:

There are no stream improvement or wetland development opportunities on this property. It is immediately adjacent to Modesto Site and Wylie Site. It includes a very nice forest (mature) with many good sized shagbark hickories and steep slopes. Property is good for block forest preservation and an increase in core forest habitat.

Special notes:

It is not known if the lodge and how much parking will be taken for frontage road. It is though expected to remove septic system. This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

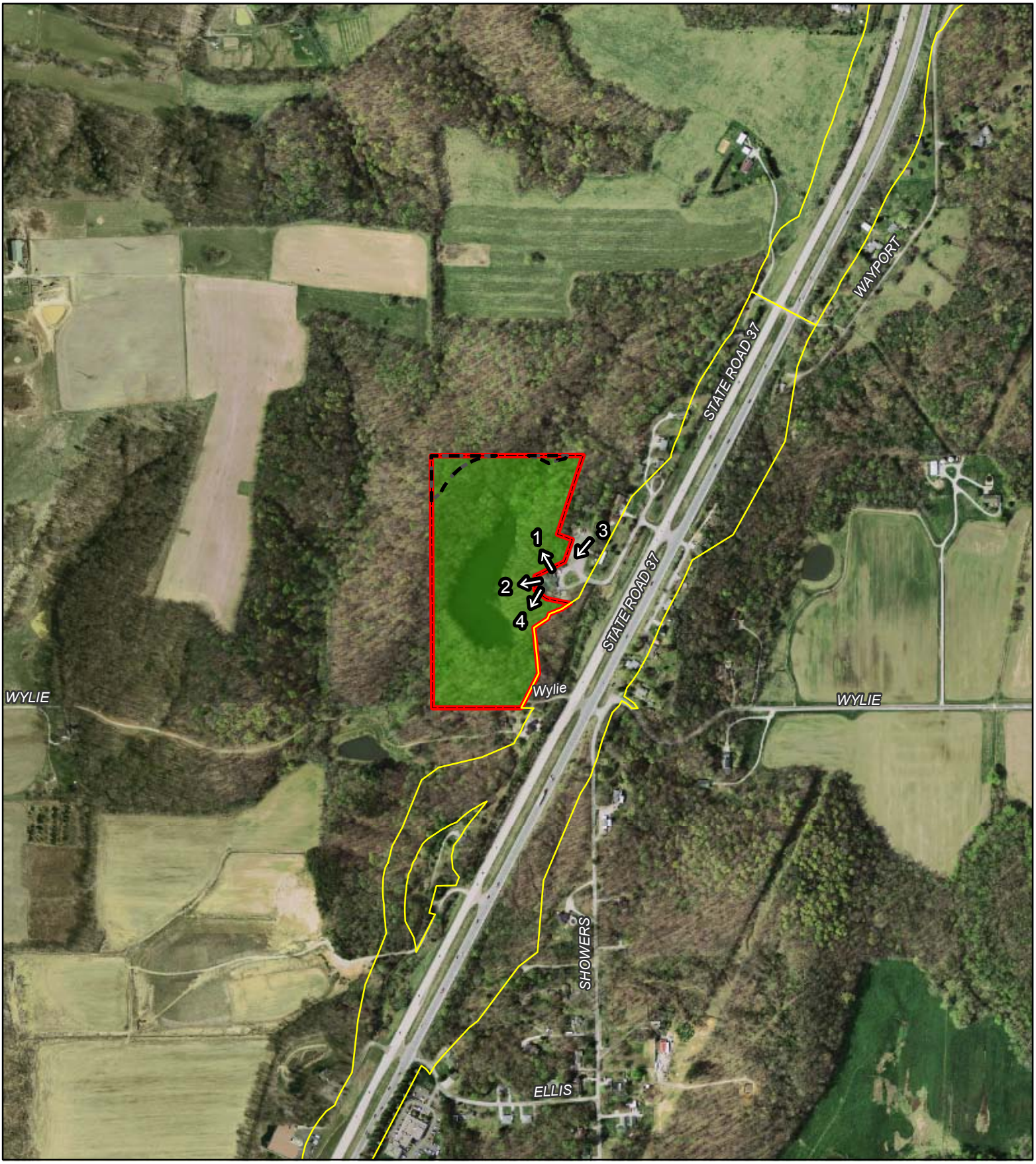


Photo Locations and Direction
Existing Core Forest (1 Acre)
Future Core Forest (1 Acre)
Mitigation Area (19 Acres)
Potential Preservation Area (19 Acres)
I-69 Section 5 ROW

Stone Belt Site
Detailed Property Map
Shown on 2011 Aerial Photo
Washington Township - Monroe County, Indiana

1 inch = 667 feet

0 500 1,000 Feet

N

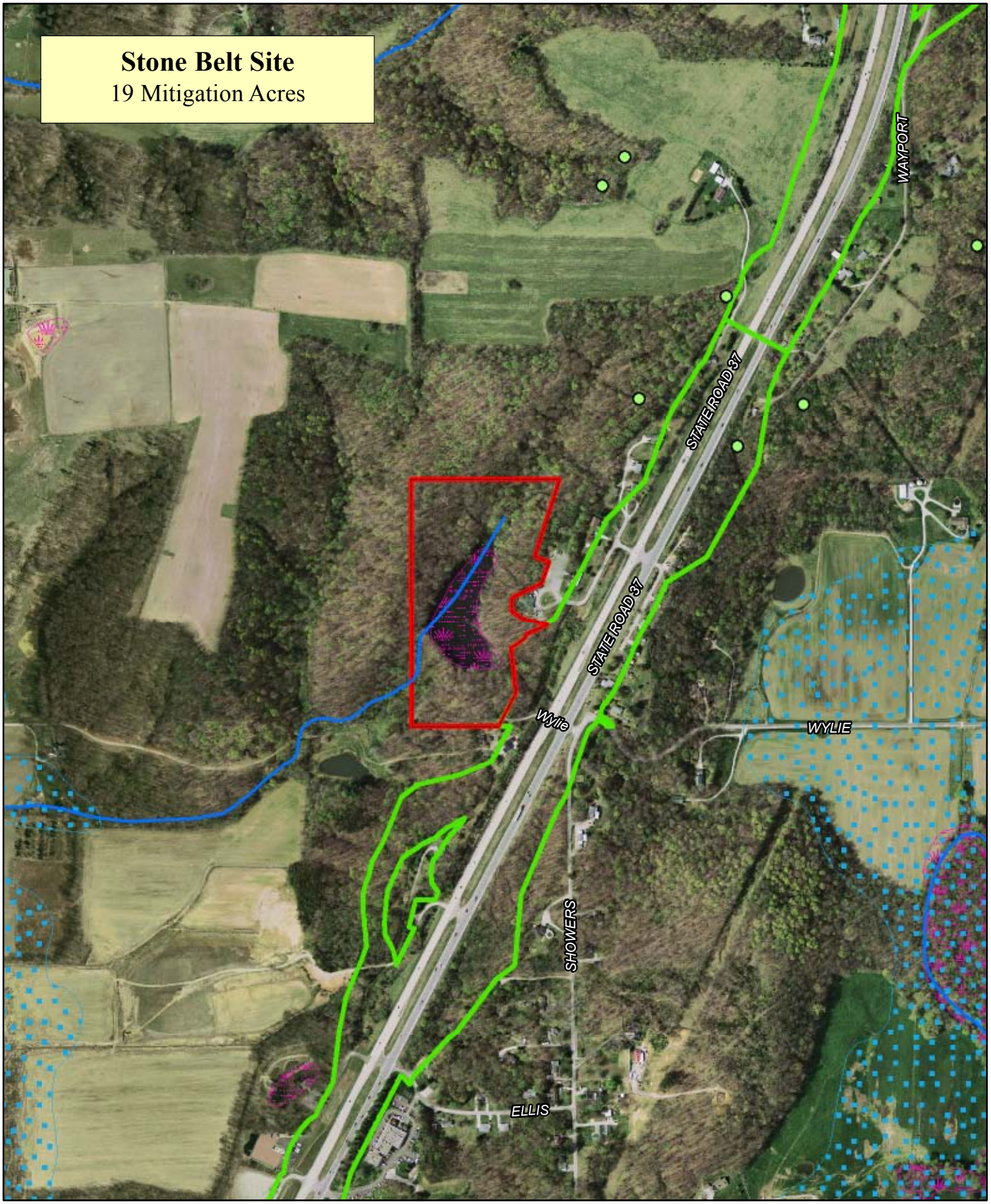
Stone Belt Site Photos

Photo 1: Typical forest area

Photo 2: Typical forest area with pond

Photo 3: Typical view of lodge and parking lot on property

Photo 4: Typical forest with oaks and hickories



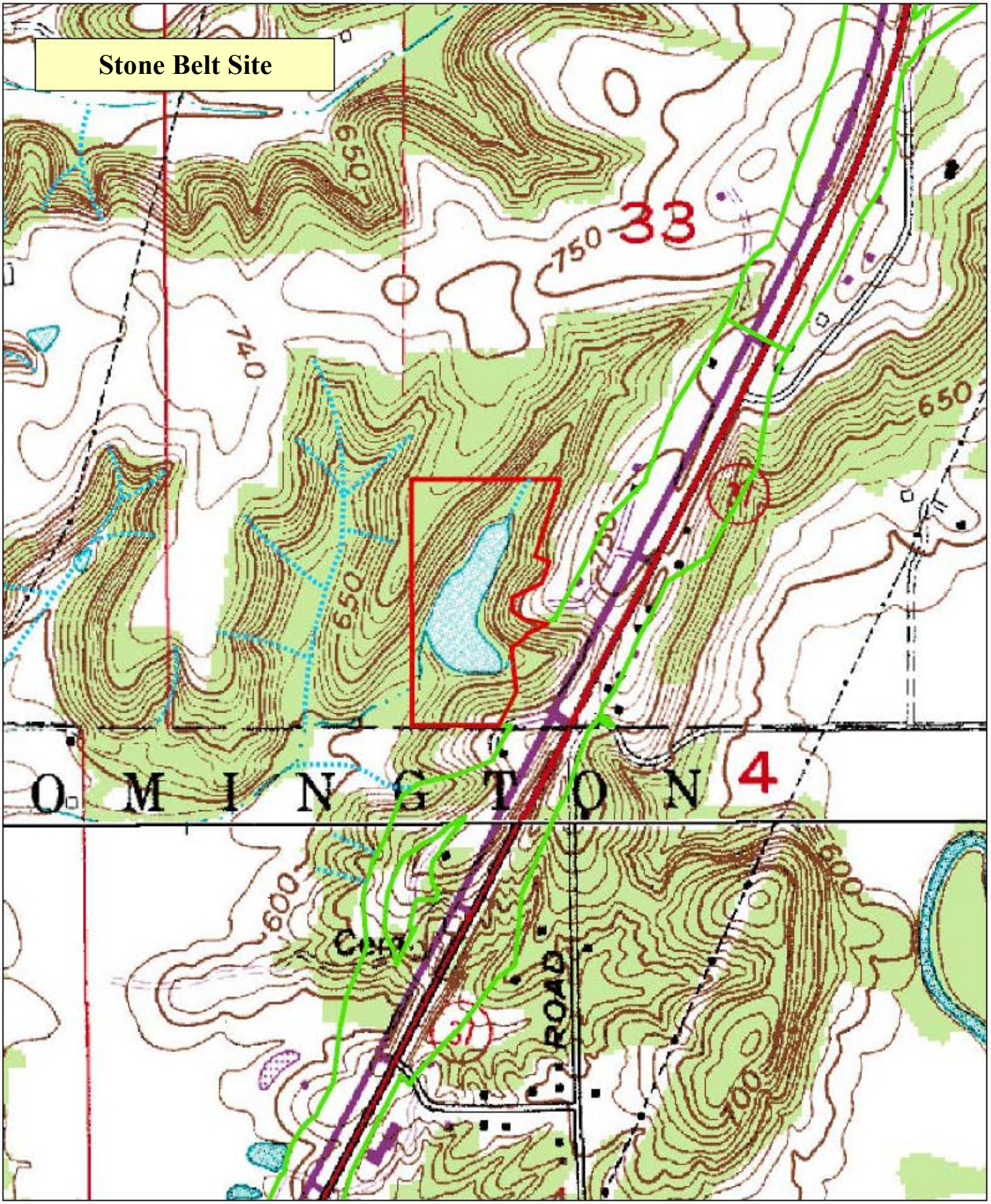
CONFIDENTIAL

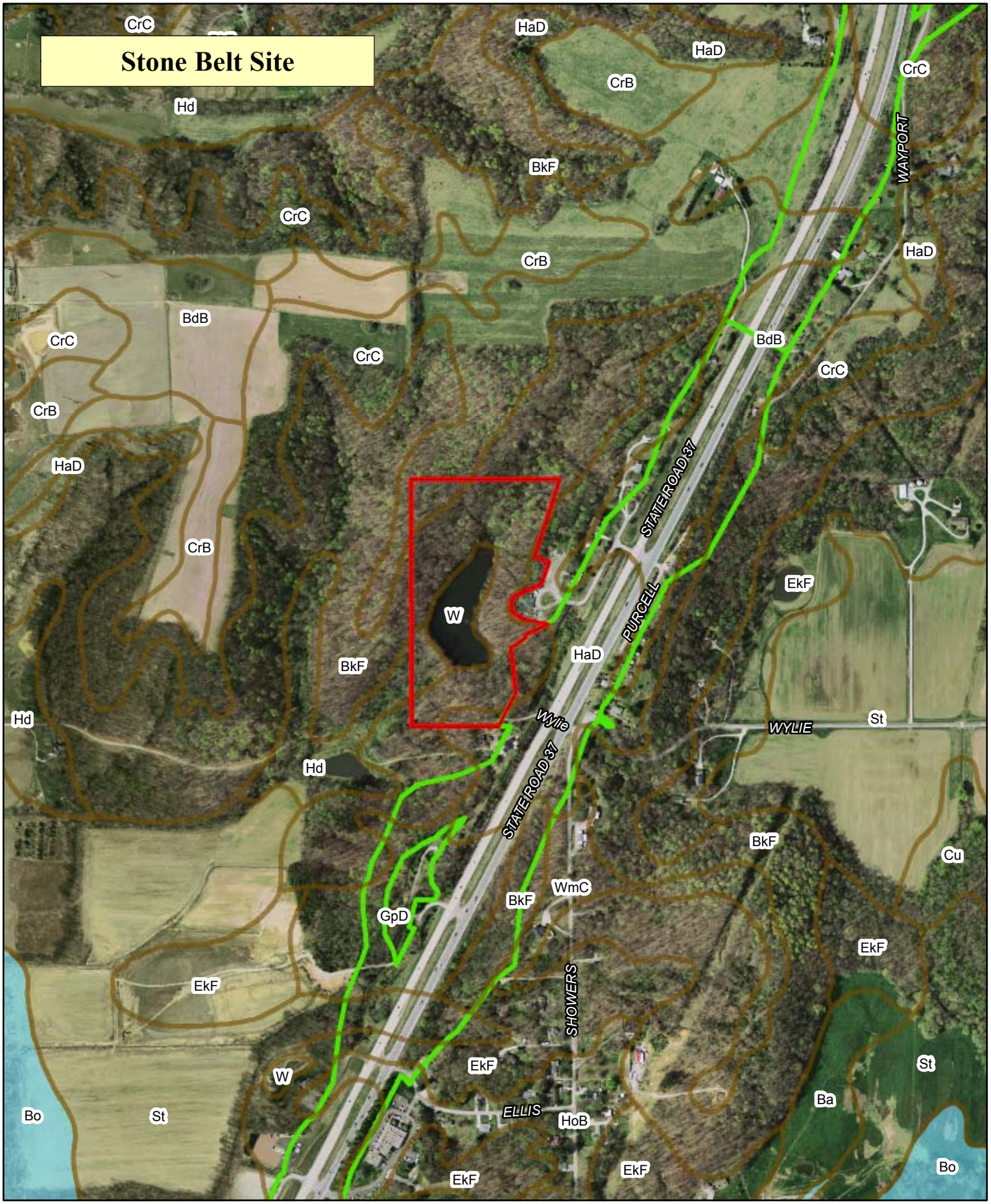
N

0 400 800 1,200 1,600

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Stone Belt Site
33
4
O M I N G T O N
650
740
750
600
ROAD
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (324 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (296 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Stone Belt Site
CrC
HaD
HaD
CrB
CrC
Hd
WAYPORT
BkF
CrC
CrB
HaD
BdB
CrC
BdB
CrC
CrC
CrB
HaD
STATE ROAD 37
CrB
EkF
W
PURCELL
HaD
BkF
Hd
Wylie
WYLIE
St
Hd
STATE ROAD 37
BkF
Cu
WmC
BkF
GpD
EkF
EkF
SHOWERS
EkF
St
W
Ba
Bo
St
ELLIS
HoB
EkF
EkF
Bo
N
0
400
800
1,200
1,600
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: HaD - Hagerstown silt loam, 12 to 18 percent slopes

Component: Hagerstown (100%)

The Hagerstown component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loess over clayey residuum weathered from limestone over limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: W - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Appendix V

Wylie Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Wylie

Location description:

This property is located just west of SR 37 just to the south of the SR 37 and Wylie Road intersection.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

Total Mitigation Area: 16 Acres

☑ Conservation Easement ☐ Fee Simple Purchase

Preservation Only: 14 Acres

Expected Price from Owner: _____

Construction (Forest/Stream/Wetland): 2 Acres

Classified Forest: ☐ Yes ☐ No

Stream Development/Restoration: _____ Acres

Hydric Soils: ☐ Yes ☑ No

Existing Core Forest: 0 Acres

Archaeology: _____

Future Core Forest: 0 Acres

Property description:

No wetland development or stream improvements are proposed on this property. There are many good sized shagbark hickories on this property, and an excellent pond at base of hill where family camps out and sees many bats. Small stream flows through property. It is adjacent to Modesto Site, Stone Belt Site, and Griffith Site which are three other "willing sellers". Block forest preservation and increasing core forest is a very good possibility.

Special notes:

They want to develop some housing units and clearing some trees. Conceptual map would need to "cut out" these proposed areas as well as roads.This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

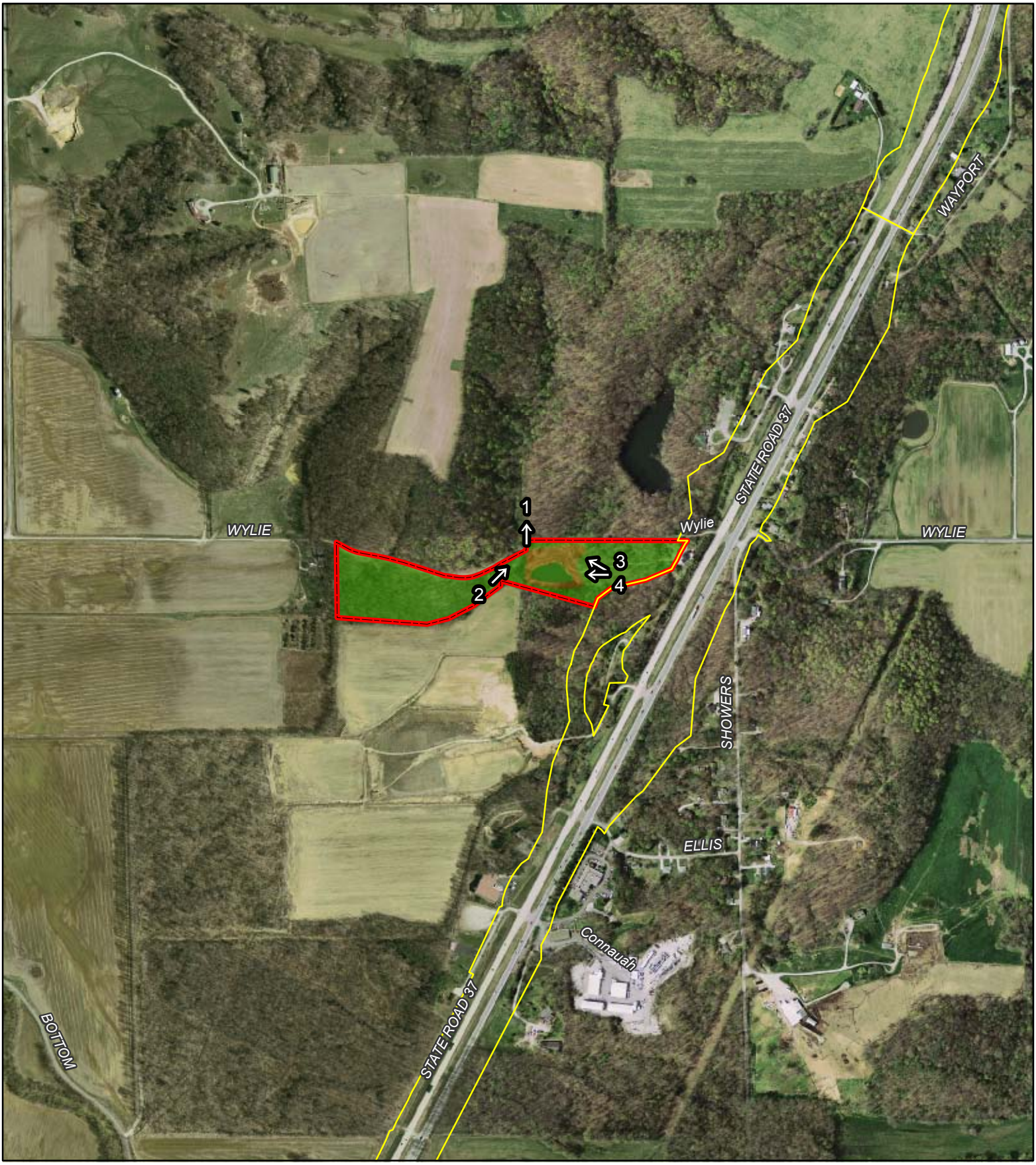


Photo Locations and Direction

Mitigation Area (16 Acres)

Potential Preservation Area (14 Acres)

Potential Reforestation Area (2 Acres)

I-69 Section 5 ROW

Wylie Site
Detailed Property Map
Shown on 2011 Aerial Photo
Bloomington Township - Monroe County, Indiana

1 inch = 833 feet

0 500 1,000 Feet

N

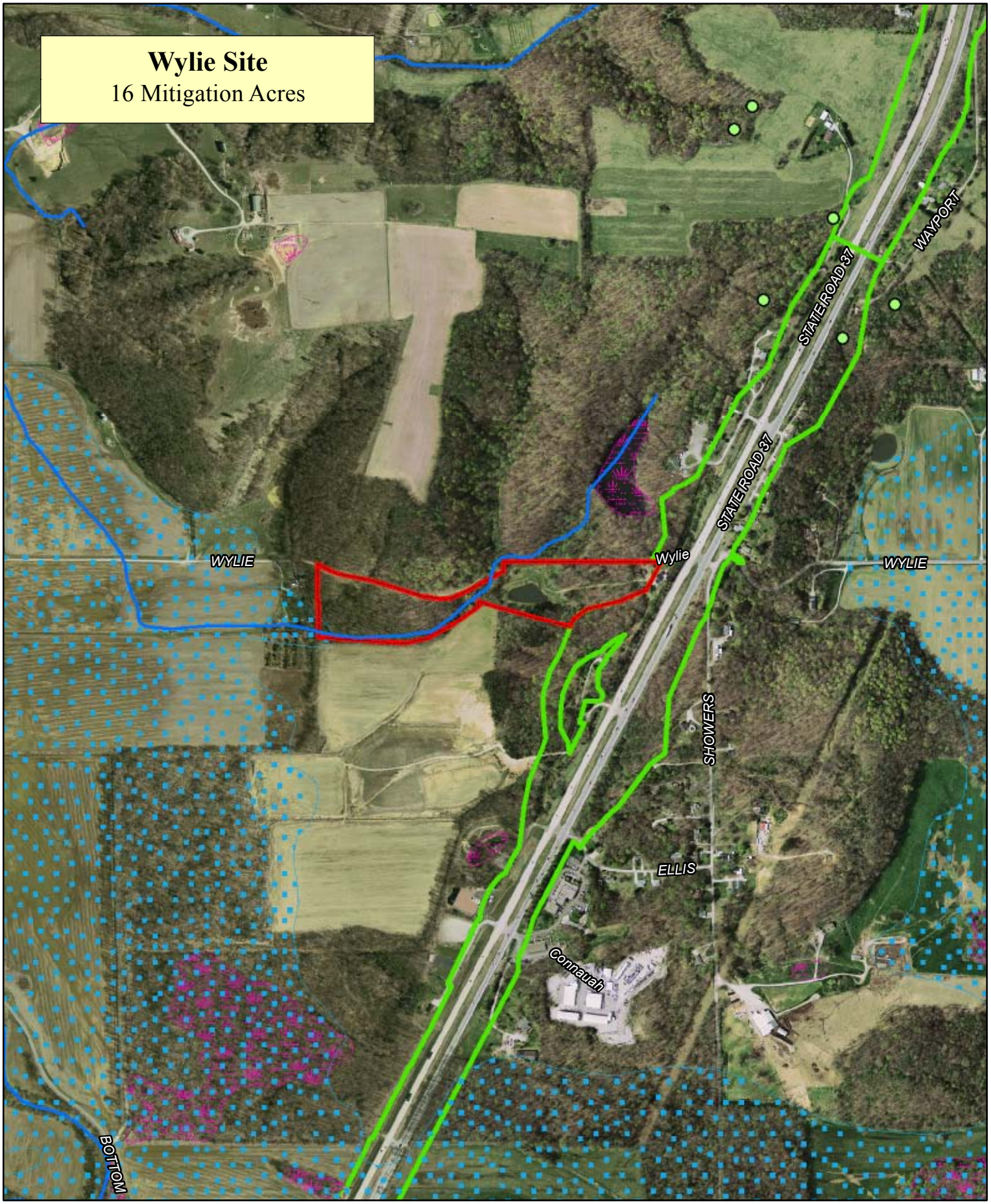
Wylie Site Photos

Photo 1: Typical forest area

Photo 2: Typical creek bed

Photo 3: Typical open field

Photo 4: Typical view of pond



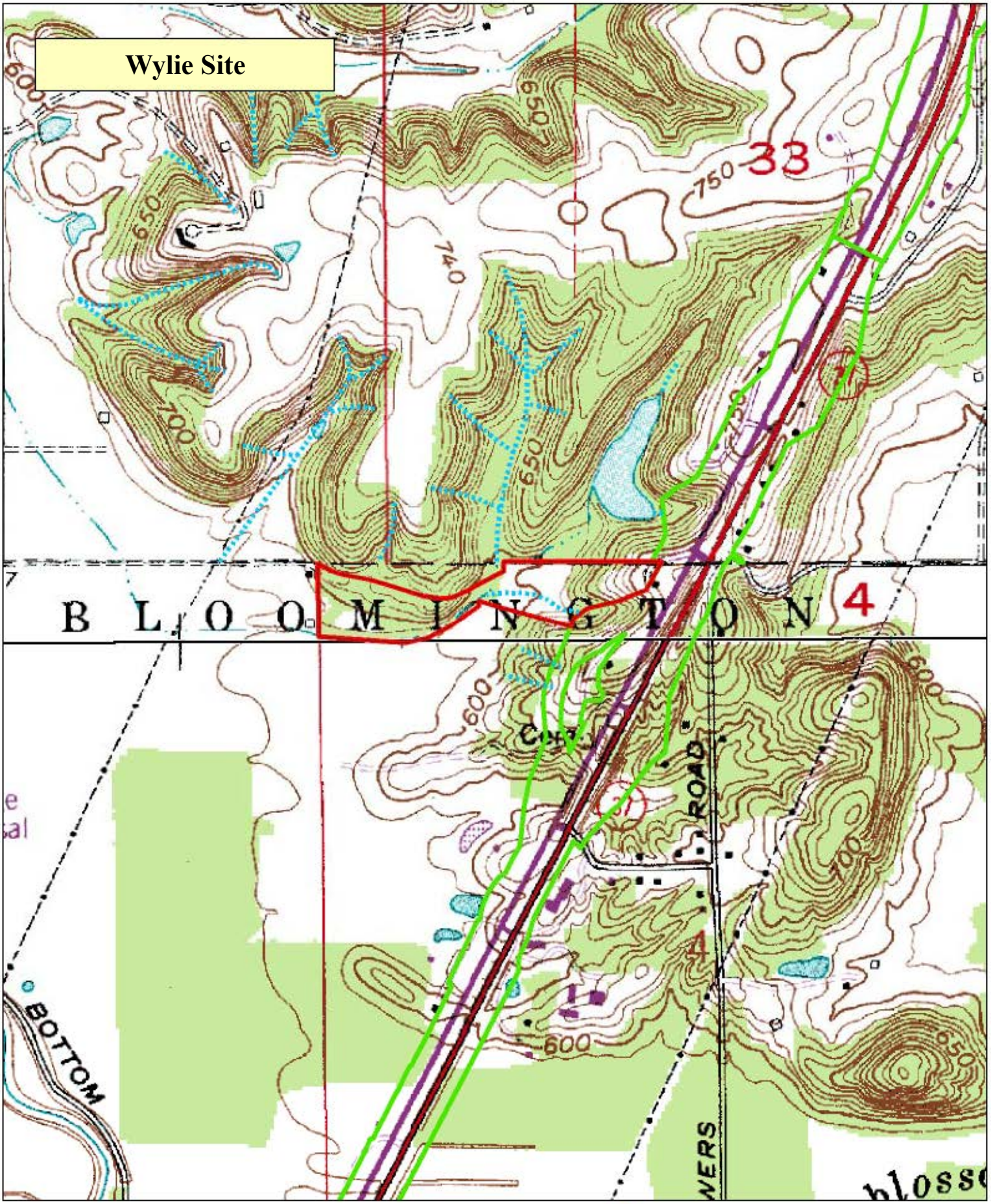
CONFIDENTIAL

N

0 400 800 1,200 1,600 2,000

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Wylie Site
BLOOMINGTON
33
4
ROAD
BOTTOM
600
650
700
740
750
N
0
400
800
1,200
1,600
2,000
Feet
Intermittent Stream (1,372 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (669 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Wylie Site
CrC
HaD
HaD
CrB
CrC
W
Ba
BkF
HoB
CrB
HaD
WAYPORT
Bu
BdB
BdB
CrC
CrC
EkF
CrB
STATE ROAD 37
HaD
CrB
EkF
Po
W
PURCELL
HaD
WYLIE
Hd
Wylie
WYLIE
St
Hd
STATE ROAD 37
BkF
WmC
Cu
GpD
BkF
EkF
EkF
SHOWERS
W
St
ELLIS
Ba
St
HoB
EkF
Bo
Connauah
BkF
Cu
BOTTOM
St
St
St
Sf
N
0
400
800
1,200
1,600
2,000
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: HaD - Hagerstown silt loam, 12 to 18 percent slopes

Component: Hagerstown (100%)

The Hagerstown component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loess over clayey residuum weathered from limestone over limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: St - Stendal silt loam, frequently flooded

Component: Stendal (97%)

The Stendal component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Acid, fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix W

Griffith Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Griffith

Location description:

This property is located on the west side of SR 37 between the Ellis Road and Wylie Road intersections with SR 37.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

Total Mitigation Area: 7 Acres

☐ Conservation Easement ☑ Fee Simple Purchase

Preservation Only: 6 Acres

Expected Price from Owner: _____

Construction (Forest/Stream/Wetland): 1 Acres

Classified Forest: ☐ Yes ☐ No

Stream Development/Restoration: _____ Acres

Hydric Soils: ☐ Yes ☑ No

Existing Core Forest: 0 Acres

Archaeology: _____

Future Core Forest: 0 Acres

Property description:

There are no stream improvements or wetland development opportunities on this property. It is immediately adjacent to Wylie Site. It includes forest with many species of trees and steep slopes. Property is good for block forest preservation and an increase in core forest habitat.

Special notes:

The property is located between a proposed frontage road and the proposed I-69. Most likely the house will come down and the yard planted in trees. This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

Photo Locations and Direction

Mitigation Area (7 Acres)

Potential Preservation Area (6 Acres)

Potential Reforestation Area (1 Acre)

I-69 Section 5 ROW

Griffith Site
Detailed Property Map
Shown on 2011 Aerial Photo
Bloomington Township - Monroe County, Indiana

1 inch = 583 feet

0 400 800 Feet

N

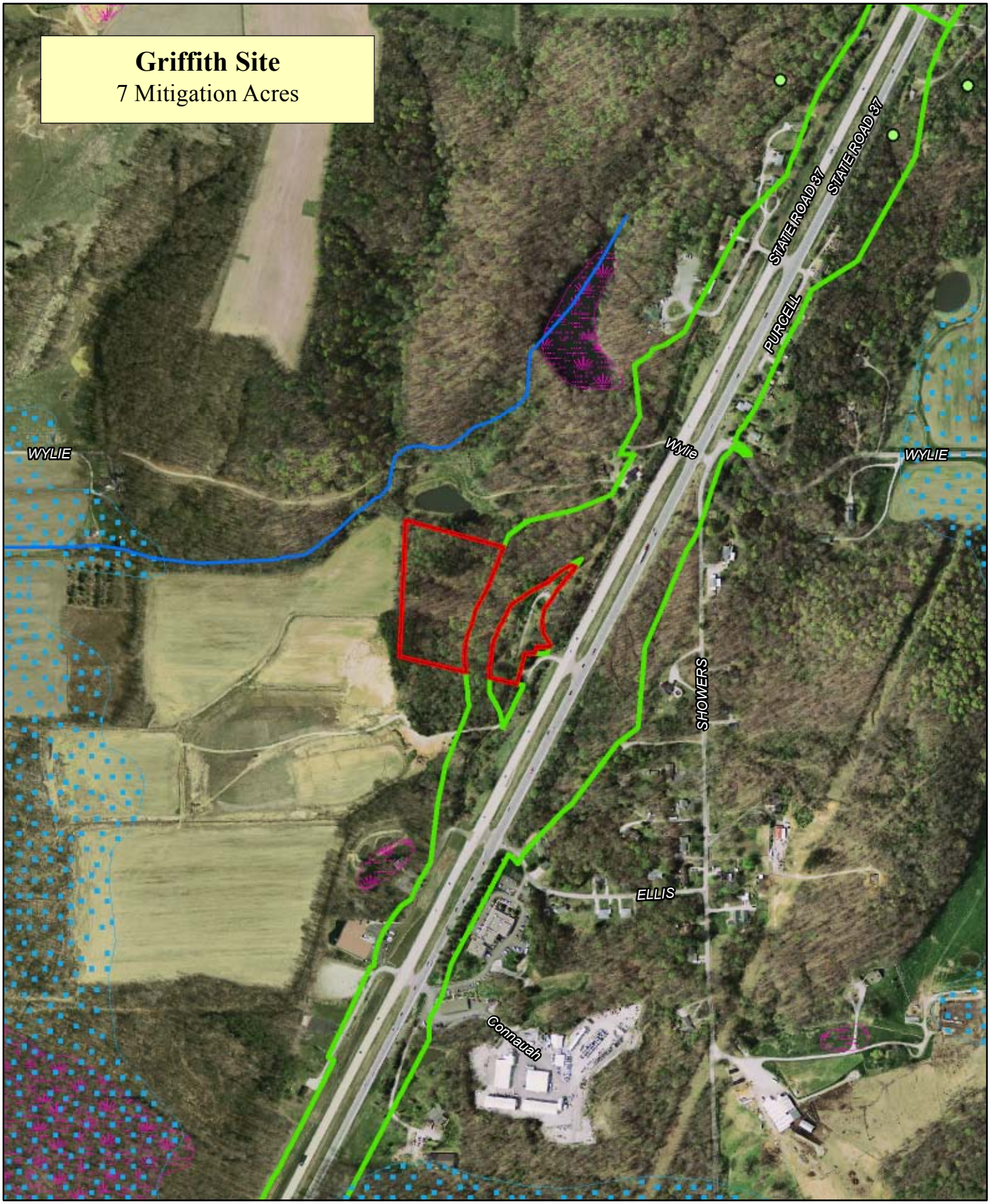
Griffith Site Photos

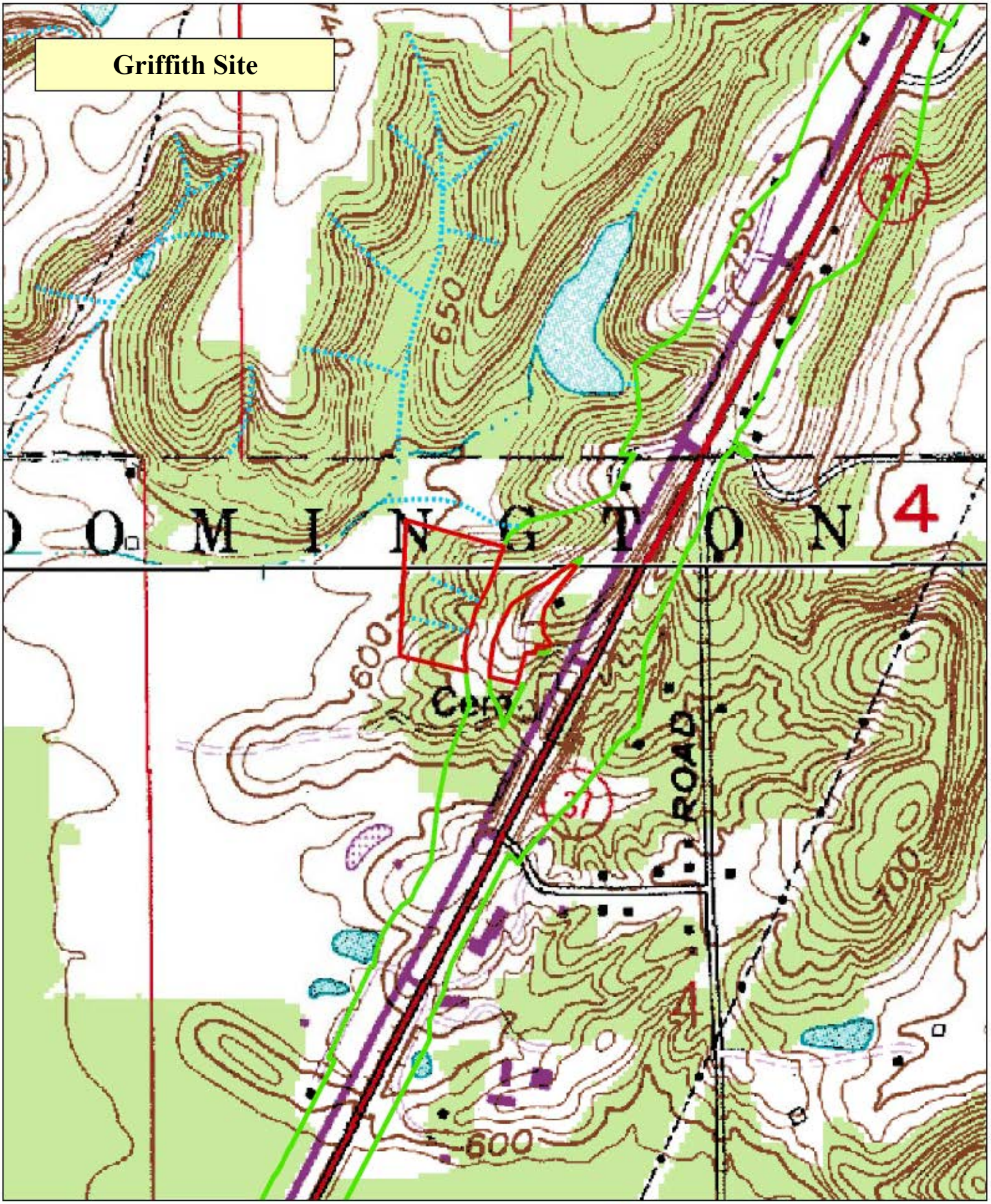
Photo 1: Typical forest area

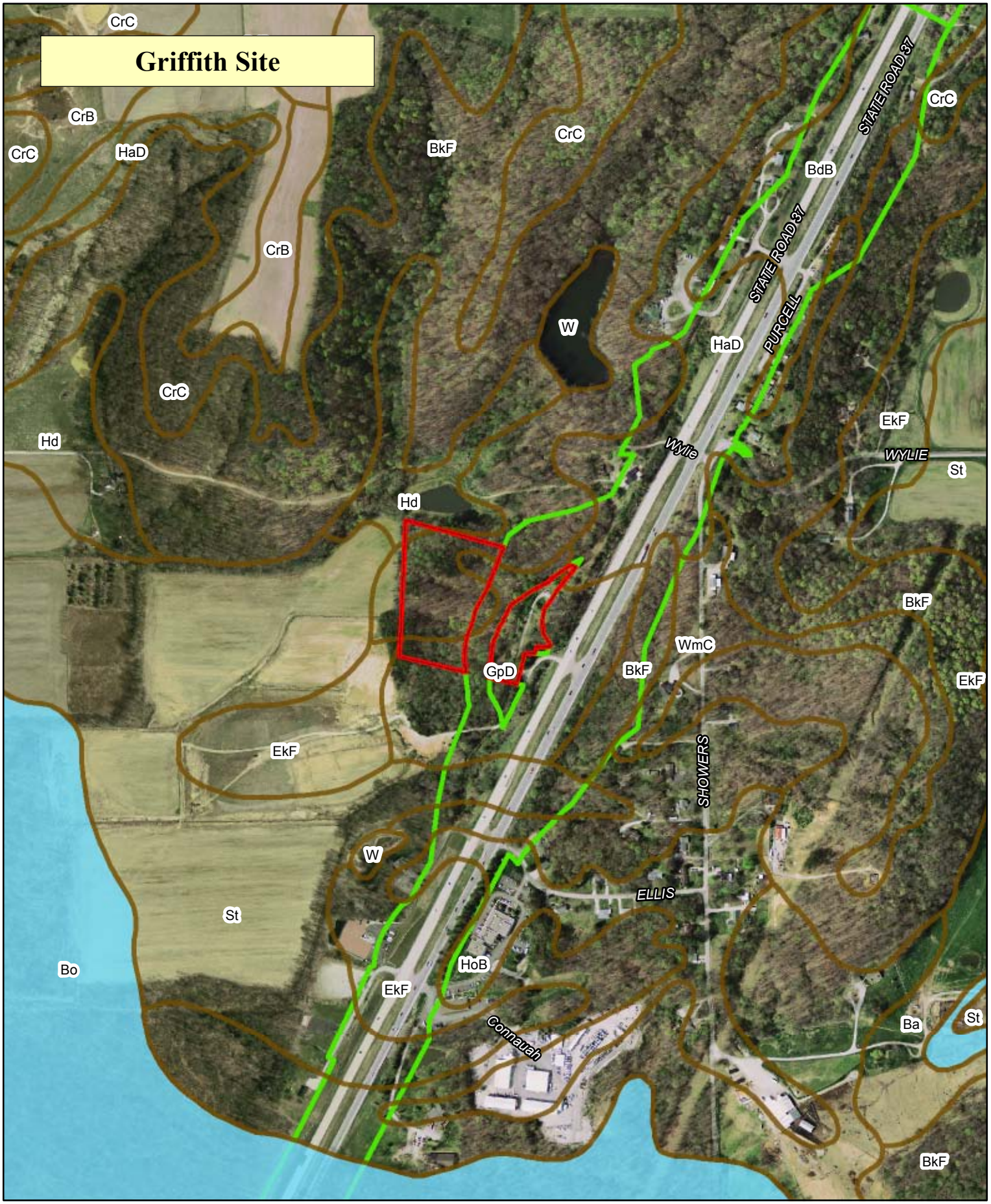
Photo 2: Typical shagbark hickory tree

Photo 3: Typical canopy and ground vegetation

Photo 4: Decadent tree with sloughing bark


Griffith Site
7 Mitigation Acres
STATE ROAD 37
STATE ROAD 37
PURCELL
WYLIE
Wylie
WYLIE
SHOWERS
ELLIS
Connauah
N
CONFIDENTIAL
0
400
800
1,200
Feet
Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Griffith Site
650
600
600
ROAD
4
4
N
0
400
800
1,200
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream 0 Linear Ft)
Ephemeral Stream (543 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Griffith Site
CrC
CrB
HaD
BkF
BdB
W
Hd
GpD
WmC
EkF
St
Bo
HoB
Ba
STATE ROAD 37
PURCELL
Wylie
WYLIE
SHOWERS
ELLIS
Connauah
N
0
400
800
1,200
Feet
Mitigation Area
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: EkF - Elkinsville silt loam, upland, 20 to 40 percent slopes

Component: Elkinsville (100%)

The Elkinsville component makes up 100 percent of the map unit. Slopes are 20 to 40 percent. This component is on stream terraces. The parent material consists of Thin loess and the underlying alluvium; or alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: GpD - Gilpin silt loam, 12 to 18 percent slopes

Component: Gilpin (100%)

The Gilpin component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on structural benches. The parent material consists of Fine-loamy residuum. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: HaD - Hagerstown silt loam, 12 to 18 percent slopes

Component: Hagerstown (100%)

The Hagerstown component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loess over clayey residuum weathered from limestone over limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix X

Long Pond Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Long Pond

Location description:

This property is located adjacent to SR 37 on the west side just north of the SR 37 and Old SR 37 interchange.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☑ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☑ Yes ☐ No

Archaeology: _____

Total Mitigation Area: 103 Acres

Preservation Only: 74 Acres

Construction (Forest/Stream/Wetland): 29 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 17 Acres

Future Core Forest: 17 Acres

Property description:

There are no stream improvements currently proposed on this site, but wetland development opportunities do exist. Wetland woods and emergent wetlands are common on this property. The fields are currently in the CRP Program.

Special notes:

This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

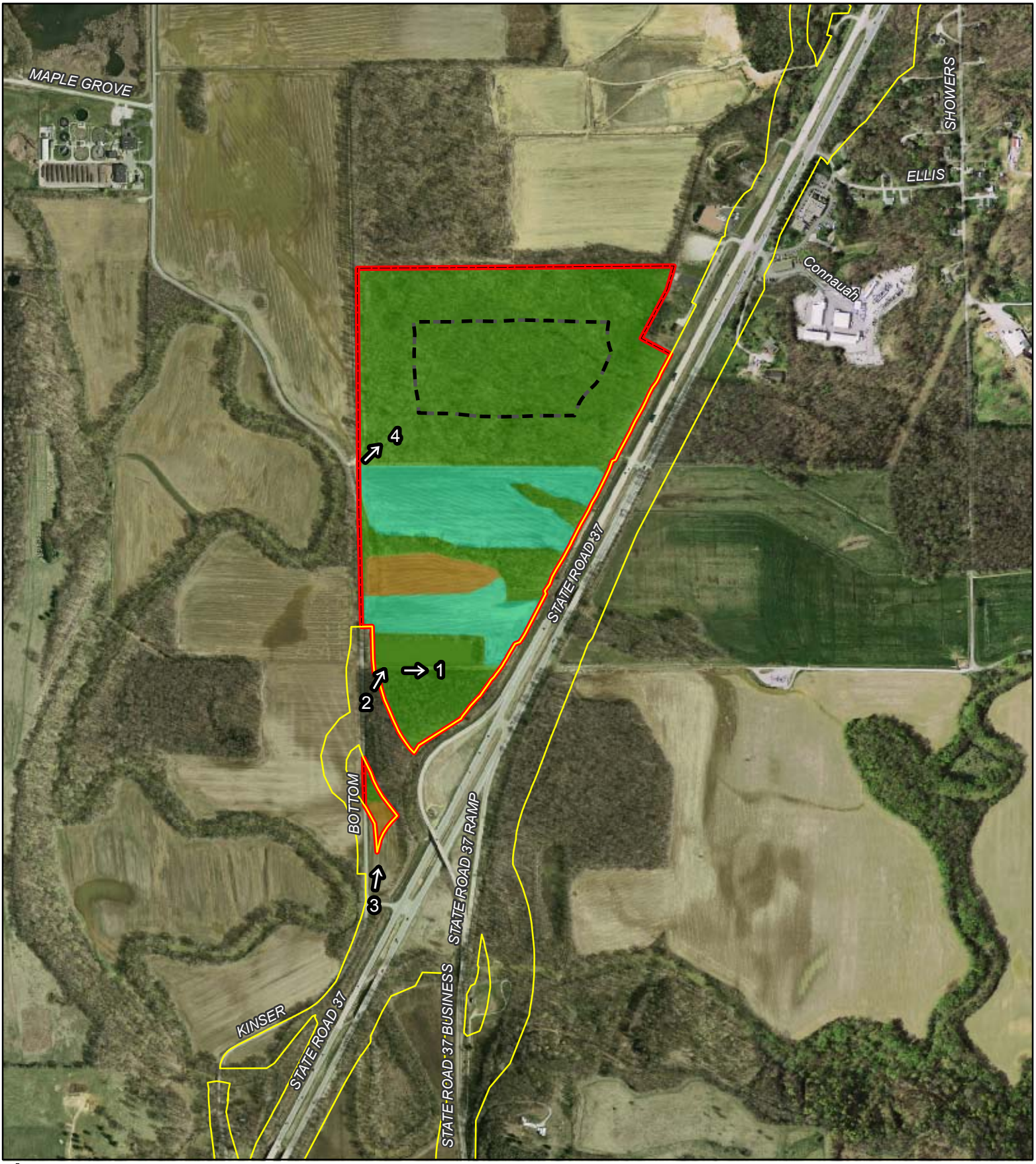


Photo Locations and Direction
Existing Core Forest (17 Acres)
Future Core Forest (17 Acres)
Mitigation Area (103 Acres)
Potential Preservation Area (74 Acres)
Potential Reforestation Area (5 Acres)
Potential Wetlands Area (24 Acres)
I-69 Section 5 ROW

Long Pond Site
Detailed Property Map
Shown on 2011 Aerial Photo
Bloomington Township - Monroe County, Indiana

1 inch = 833 feet

0 500 1,000 Feet

N

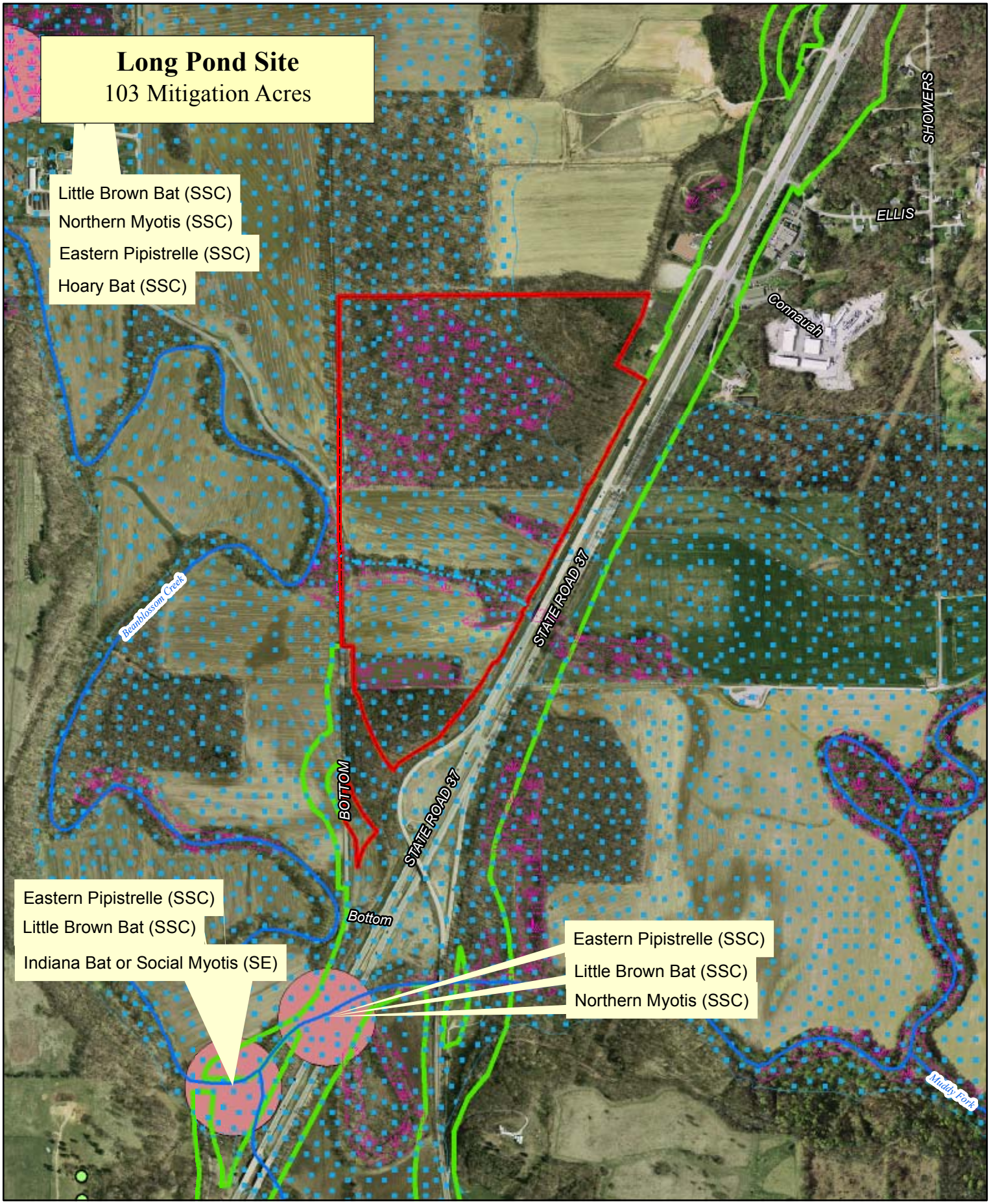
Long Pond Site Photos

Photo 1: Typical view of pond and access road

Photo 2: Typical view of pond

Photo 3: Typical open field near road

Photo 4: Typical partially wooded area



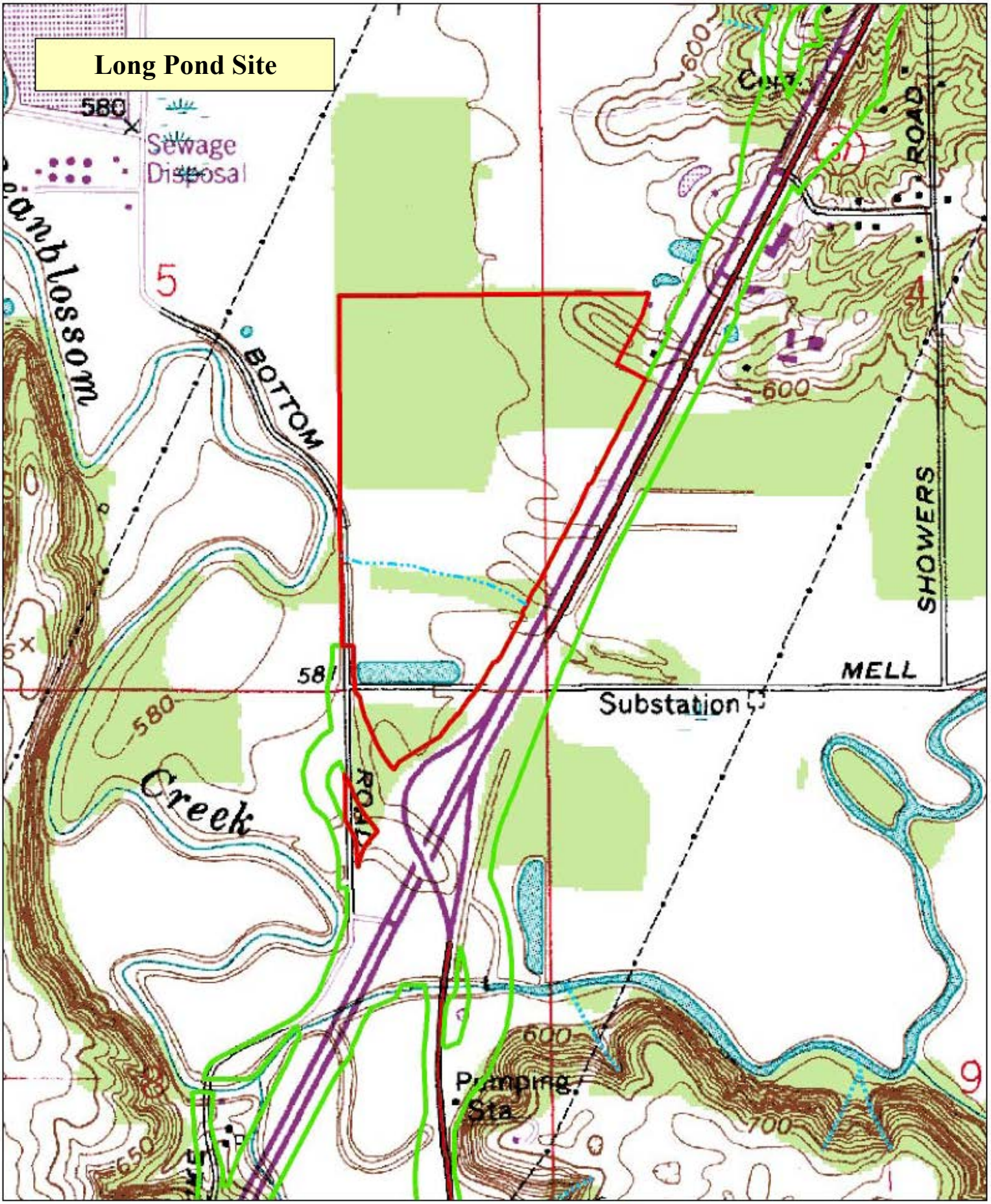
CONFIDENTIAL

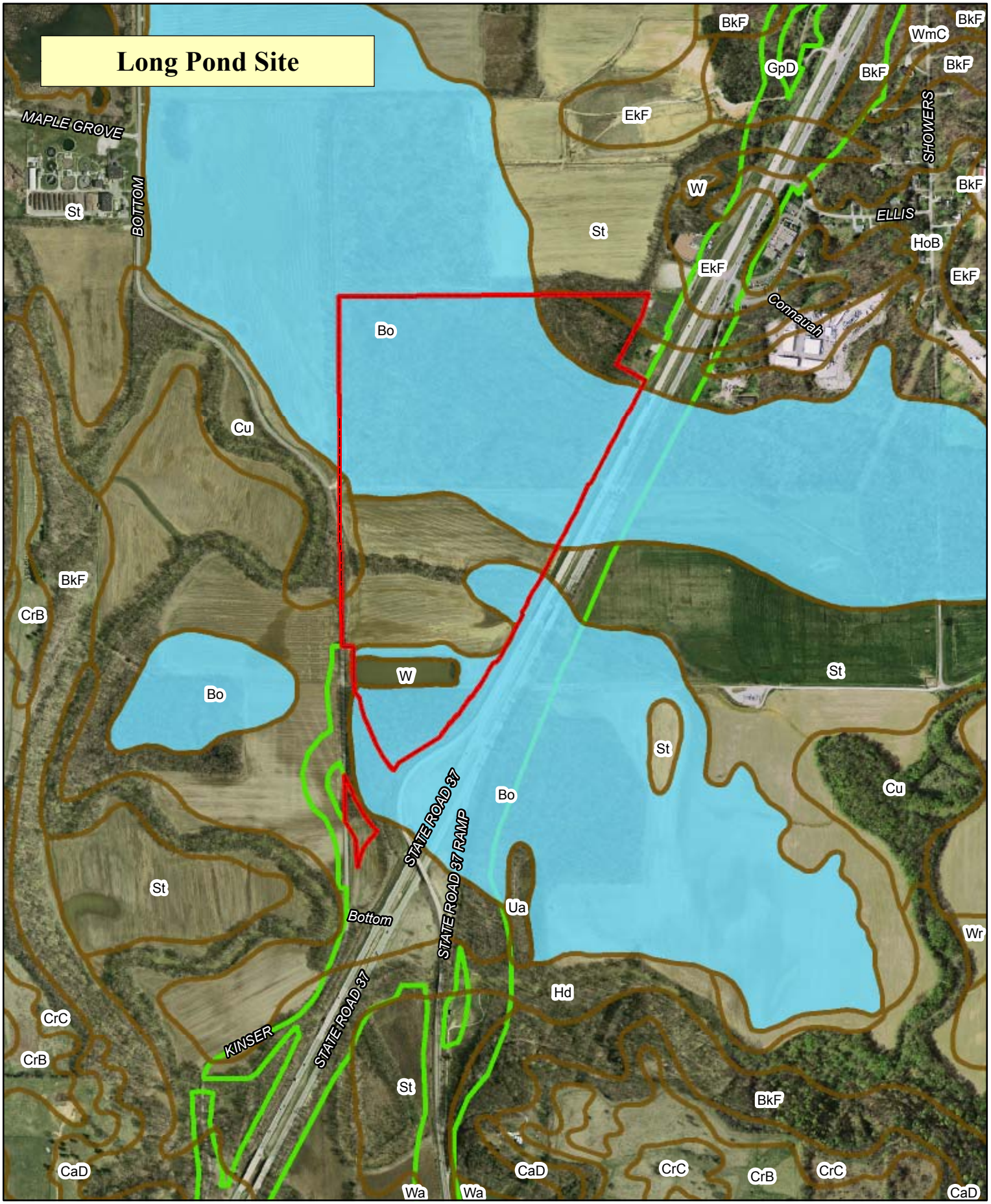
N

0 400 800 1,200 1,600 2,000

Feet

Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Long Pond Site
580
Sewage Disposal
5
4
9
BOTTOM
ROAD
SHOWERS
MELL
Substation
Creek
Pumping Sta.
600
580
700
650
N
0
400
800
1,200
1,600
2,000
Feet
Intermittent Stream (1,311 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Long Pond Site
MAPLE GROVE
BOTTOM
SHOWERS
ELLIS
Connauah
Bottom
KINSER
STATE ROAD 37
STATE ROAD 37 RAMP
BkF
WmC
GpD
EkF
W
St
HoB
Bo
Cu
CrB
Ua
Wr
Hd
CrC
CaD
Wa
N
0
400
800
1,200
1,600
2,000
Feet
Mitigation Area
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: Bo - Bonnie silt loam, frequently flooded

Component: Bonnie (100%)

The Bonnie component makes up 100 percent of the map unit. Slopes are 0 to 1 percent. This component is on backswamps. The parent material consists of Acid, fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Map unit: Cu - Cuba silt loam, frequently flooded

Component: Cuba (100%)

The Cuba component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood-plain steps. The parent material consists of acid silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: EkF - Elkinsville silt loam, upland, 20 to 40 percent slopes

Component: Elkinsville (100%)

The Elkinsville component makes up 100 percent of the map unit. Slopes are 20 to 40 percent. This component is on stream terraces. The parent material consists of Thin loess and the underlying alluvium; or alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: St - Stendal silt loam, frequently flooded

Component: Stendal (97%)

The Stendal component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Acid, fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: W - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Appendix Y

Modesto Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Modesto

Location description:

This property is located on the west side of SR 37 and on the east side of Bottom Road just north of Wylie Road.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☑ Conservation Easement ☐ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☑ Yes ☐ No

Archaeology: _____

Total Mitigation Area: 139 Acres

Preservation Only: 115 Acres

Construction (Forest/Stream/Wetland): 24 Acres

Stream Development/Restoration: 2,951 ĊŜŝű

Existing Core Forest: 15 Acres

Future Core Forest: 17 Acres

Property description:

There is potential to complete stream restoration and/or enhancement on this property by the completion of stream bank restoration, invasive species eradication, and cattle exclusion along a small stream that starts near the Canyon Site. Potential wetland development opportunities are available at this site. The site has a number of karst features (e.g., seeps, springs, sinkholes) with a nice stream flowing through it. Much of the property is wooded along with hay fields for cattle. Wildlife is abundant.

Special notes:

A cut out for a road is needed and fencing will be needed to keep cattle out of forests, i.e., preservation and reforestation. Sinkholes in fields are defined as wooded islands. This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

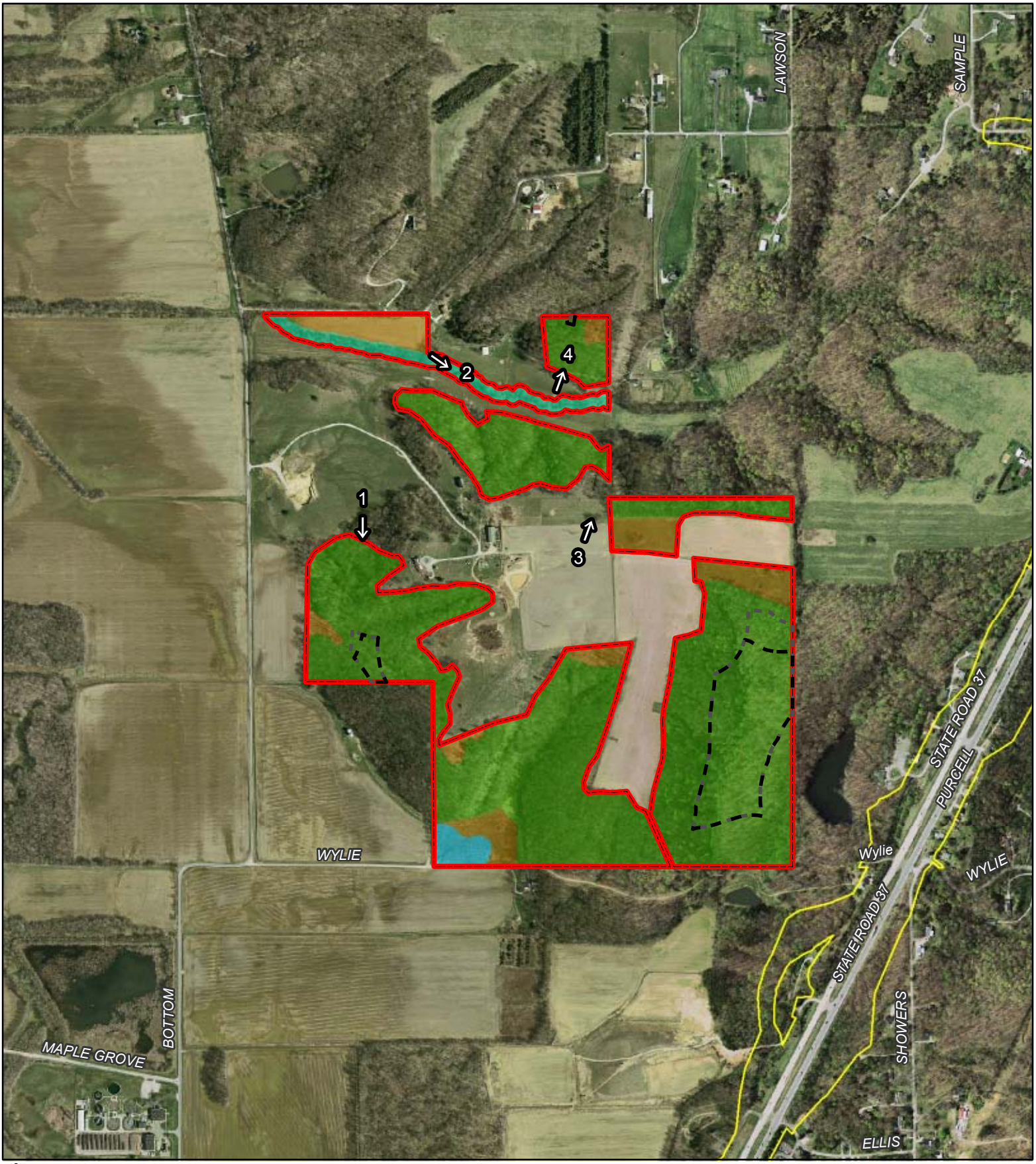


Photo Locations and Direction
Existing Core Forest (15 Acres)
Future Core Forest (17 Acres)
Mitigation Area (139 Acres)
Potential Preservation (115 Acres)
Potential Reforestation (16 Acres)
Potential Riparian Area (6 Acres)
Potential Wetlands (2 Acres)
I-69 Section 5 ROW

Modesto site
Detailed Property Map
Shown on 2011 Aerial Photo
Washington Township - Monroe County, Indiana

1 inch = 917 feet

0 500 1,000
Feet

N

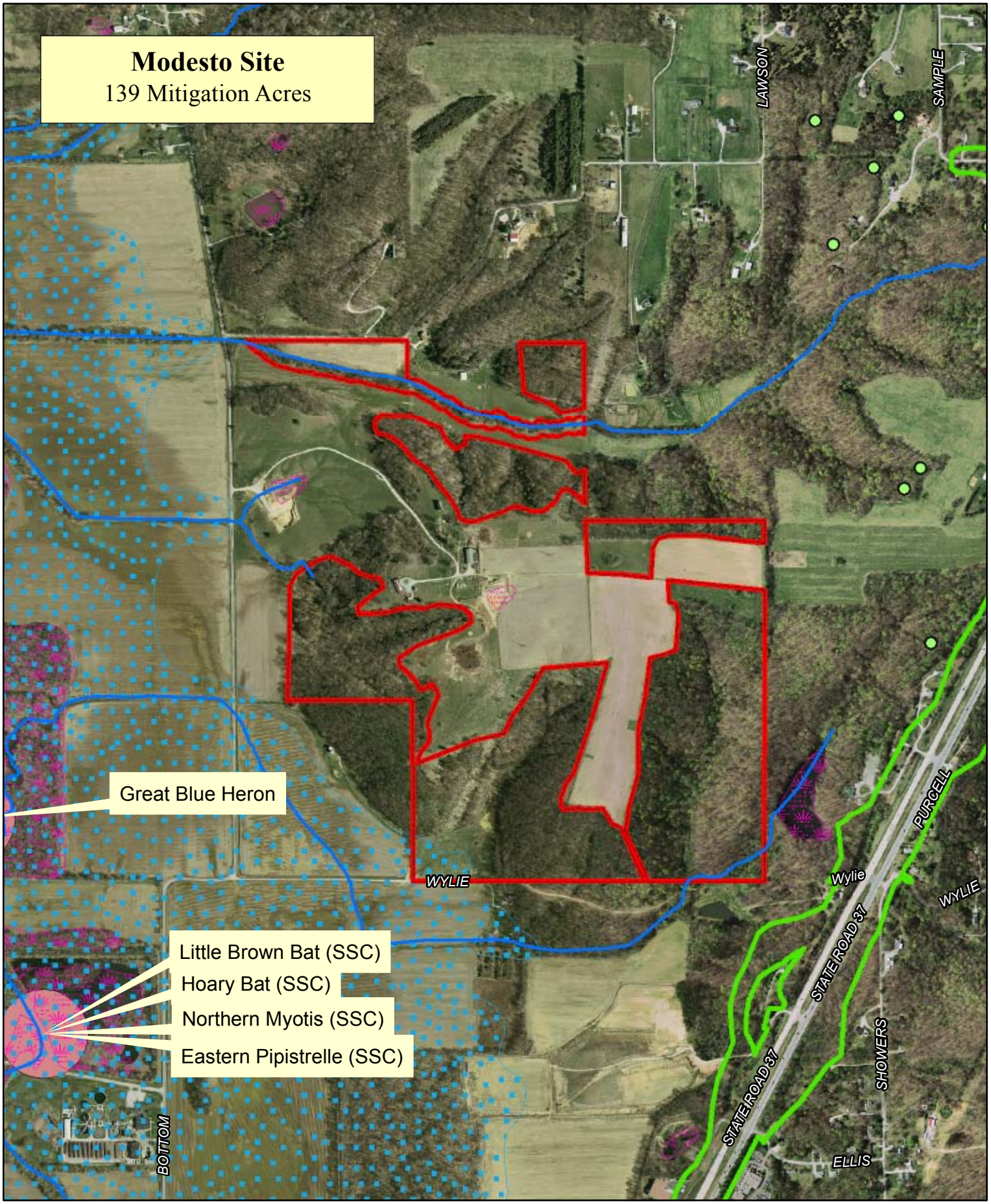
Modesto Site Photos

Photo 1: Typical forest area

Photo 2: Typical creek bed

Photo 3: Typical forested sinkhole

Photo 4: Typical upland forested area



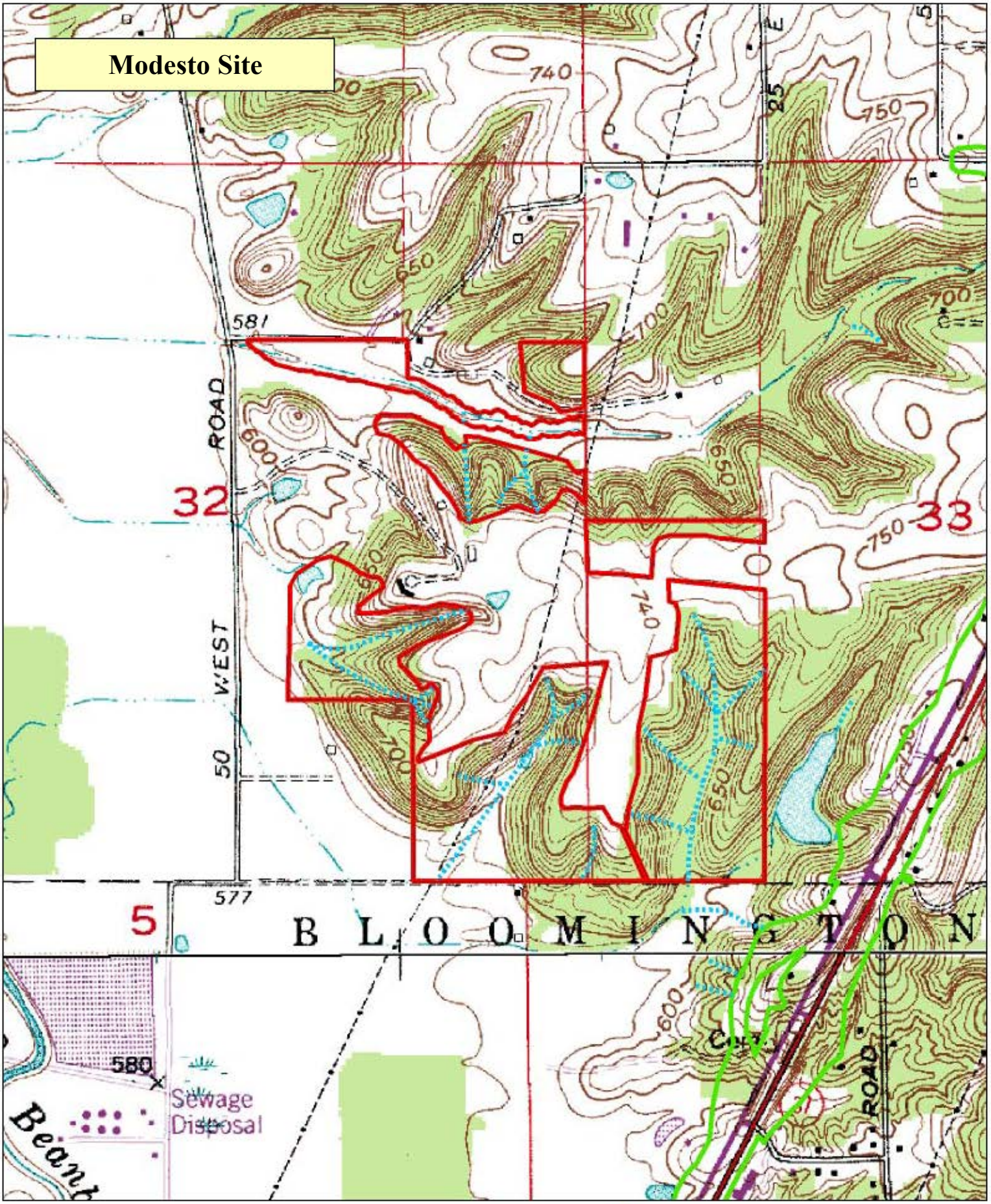
CONFIDENTIAL

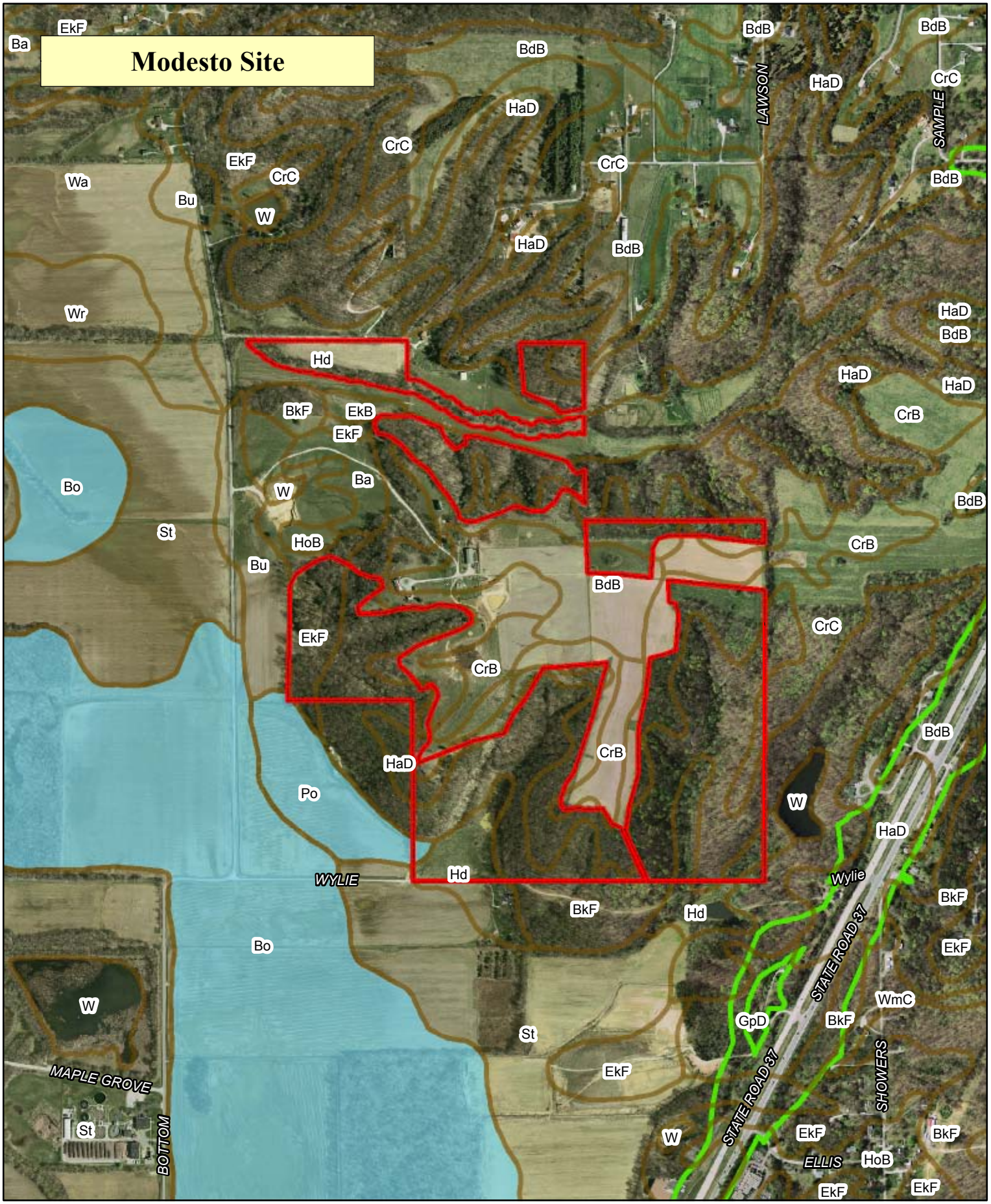
N

0 400 800 1,200 1,600 2,000

Feet

Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Modesto Site
740
750
650
700
581
ROAD
600
32
33
WEST
50
577
5
B L O O M I N G T O N
580
Sewage
Disposal
ROAD
N
0
400
800
1,200
1,600
2,000
Feet
Intermittent Stream (2,951 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (10,901 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Modesto Site
Ba
EkF
BdB
LAWSON
HaD
CrC
SAMPLE
Wa
Bu
W
Wr
Hd
BkF
EkB
Bo
St
HoB
CrB
WYLIE
Po
Wylie
STATE ROAD 37
WmC
GpD
MAPLE GROVE
BOTTOM
SHOWERS
ELLIS
HoB
0 400 800 1,200 1,600 2,000
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BdB - Bedford silt loam, 2 to 6 percent slopes

Component: Bedford (100%)

The Bedford component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of Loess, loamy material, and a paleosol in clayey residuum. Depth to a root restrictive layer, fragipan, is 20 to 38 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: Bu - Burnside silt loam, occasionally flooded

Component: Burnside (100%)

The Burnside component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy-skeletal alluvium over shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 40 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: CrB - Crider silt loam, 2 to 6 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of loess and the underlying paleosol from clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: EkB - Elkinsville silt loam, 2 to 6 percent slopes

Component: Elkinsville (100%)

The Elkinsville component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces. The parent material consists of Thin loess and the underlying alluvium; or alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: EkF - Elkinsville silt loam, upland, 20 to 40 percent slopes

Component: Elkinsville (100%)

The Elkinsville component makes up 100 percent of the map unit. Slopes are 20 to 40 percent. This component is on stream terraces. The parent material consists of Thin loess and the underlying alluvium; or alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: HaD - Hagerstown silt loam, 12 to 18 percent slopes

Component: Hagerstown (100%)

The Hagerstown component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loess over clayey residuum weathered from limestone over limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: Po - Peoga silt loam

Component: Peoga (100%)

The Peoga component makes up 100 percent of the map unit. Slopes are 0 to 1 percent. This component is on stream terraces, lake plains. The parent material consists of Loess and the underlying palesol in loamy lacustrine sediments; or alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Map unit: St - Stendal silt loam, frequently flooded

Component: Stendal (97%)

The Stendal component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Acid, fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix Z

Whisnand Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Whisnand

Location description:

This property is located east of Old SR 37 just south of the SR 37 and Old SR 37 interchange.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☑ Conservation Easement ☐ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 85 Acres

Preservation Only: 44 Acres

Construction (Forest/Stream/Wetland): 41 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: 1 Acres

Future Core Forest: 22 Acres

Property description:

The property includes upland forest preservation and reforestation opportunities. There are no wetland or stream mitigaiton opportunities available at this site. Block forest preservation is very possible and would increase core forest.

Special notes:

Such land is developable and located within the city limits. An eagle nest is located in sight distance from top of hill. This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

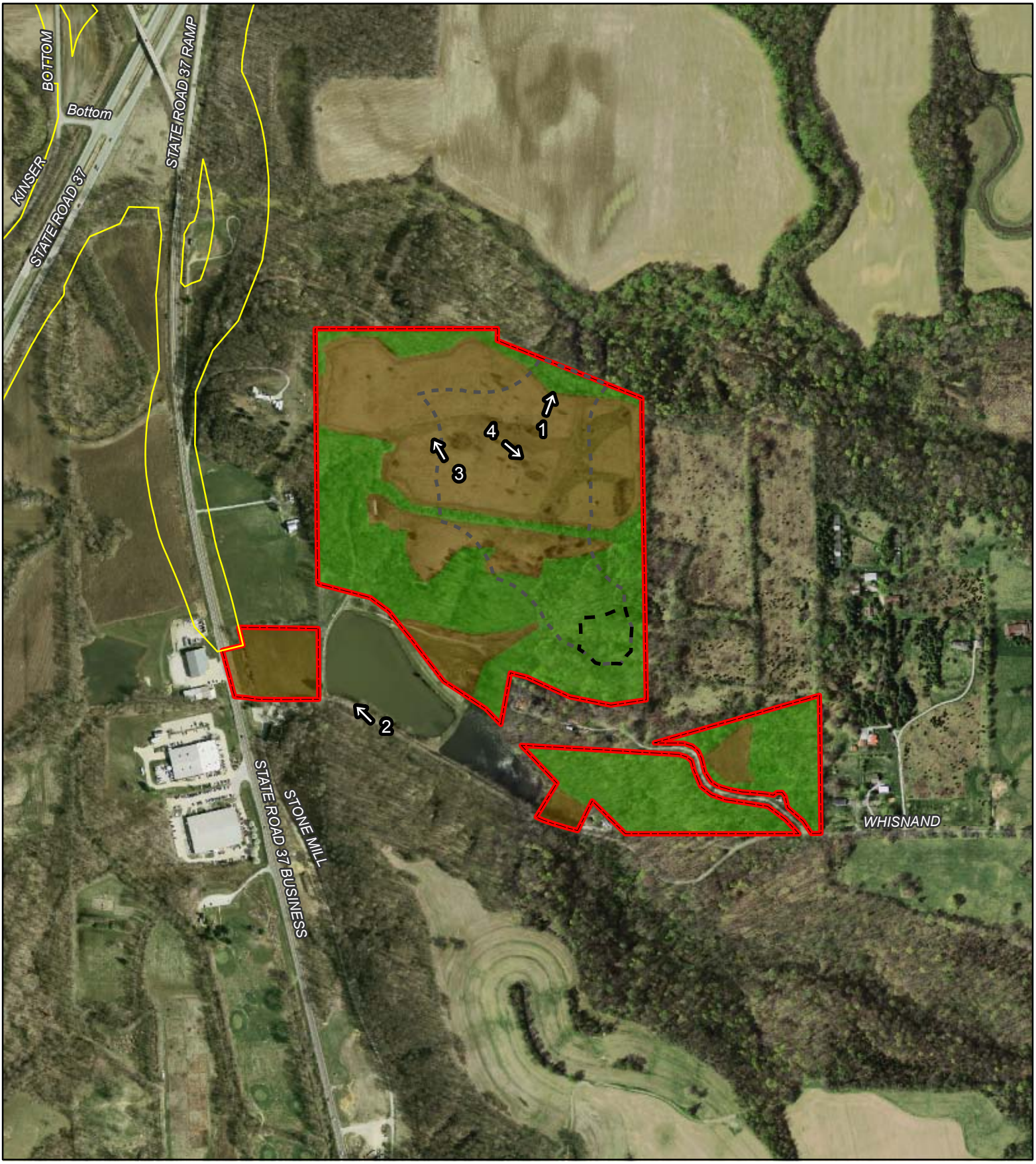


Photo Locations and Direction
Existing Core Forest (1 Acre)
Future Core Forest (22 Acres)
Mitigation Area (85 Acres)
Potential Preservation Area (44 Acres)
Potential Reforestation Area (41 Acres)
I-69 Section 5 ROW

Whisnand Site
Detailed Property Map
Shown on 2011 Aerial Photo
Bloomington Township - Monroe County, Indiana

1 inch = 667 feet

0 500 1,000 Feet

N

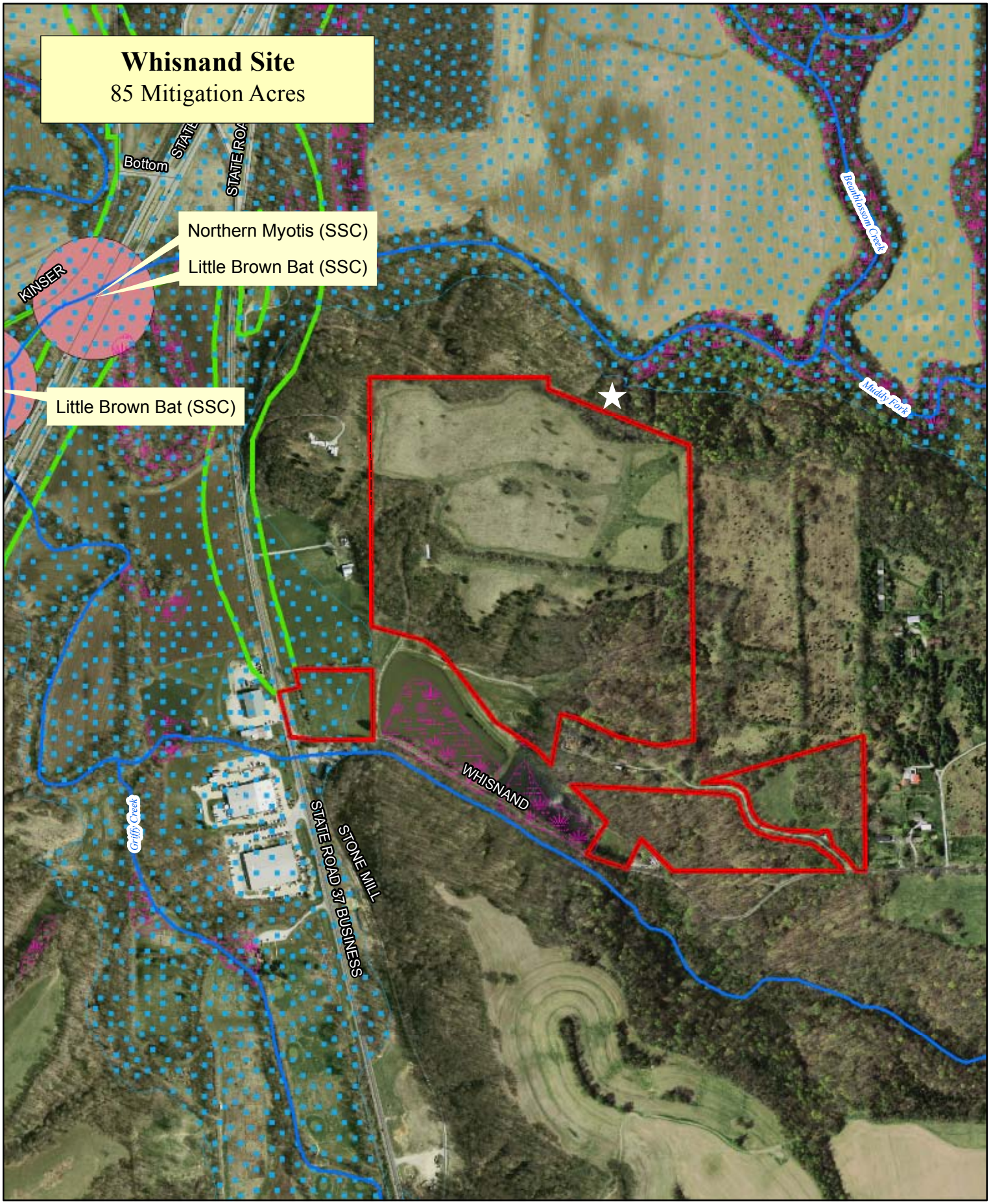
Whisnand Site Photos

Photo 1: Typical forest area with bald eagle nest

Photo 2: Typical view of open water

Photo 3: Typical open field

Photo 4: Typical agriculture field



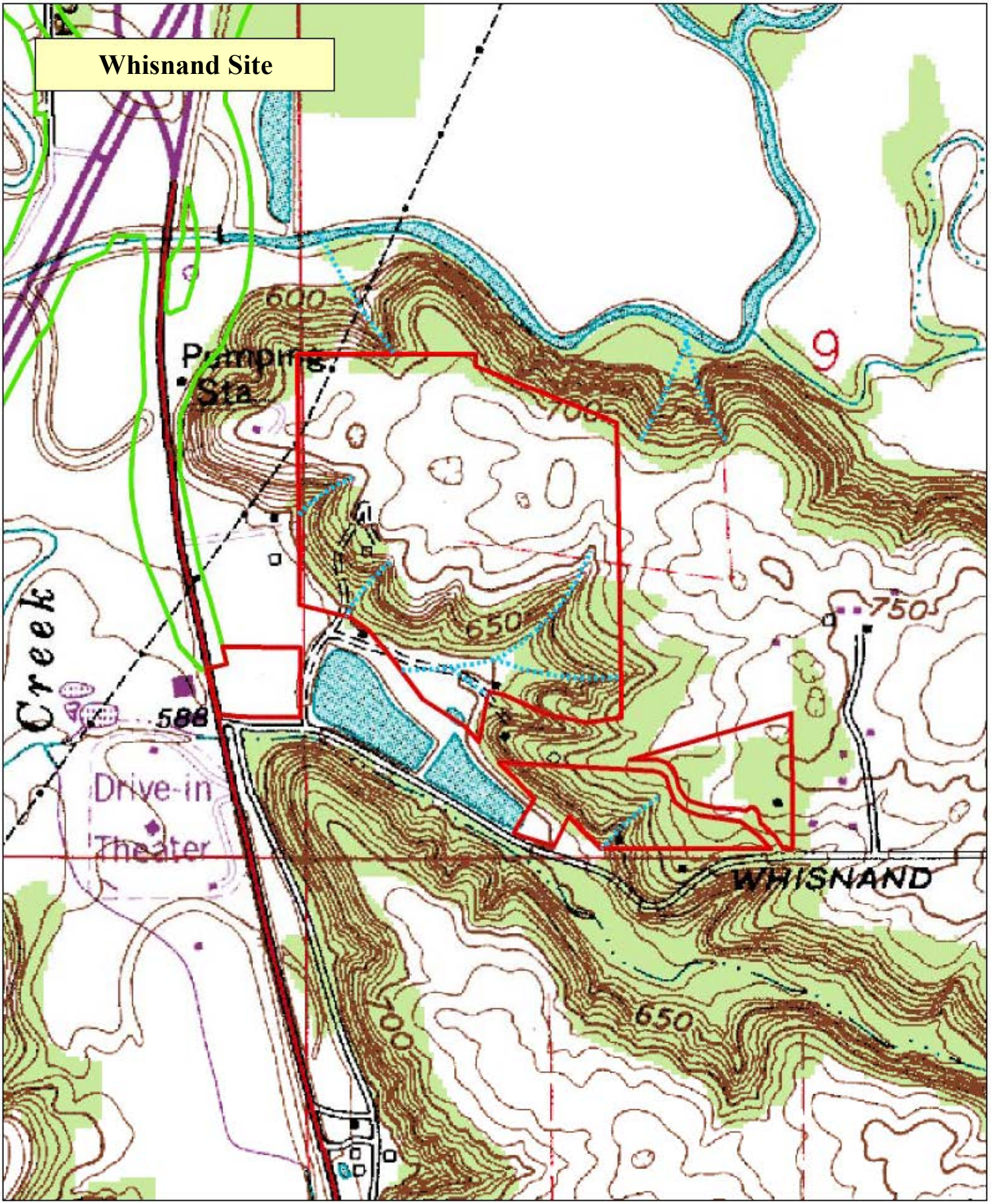
CONFIDENTIAL

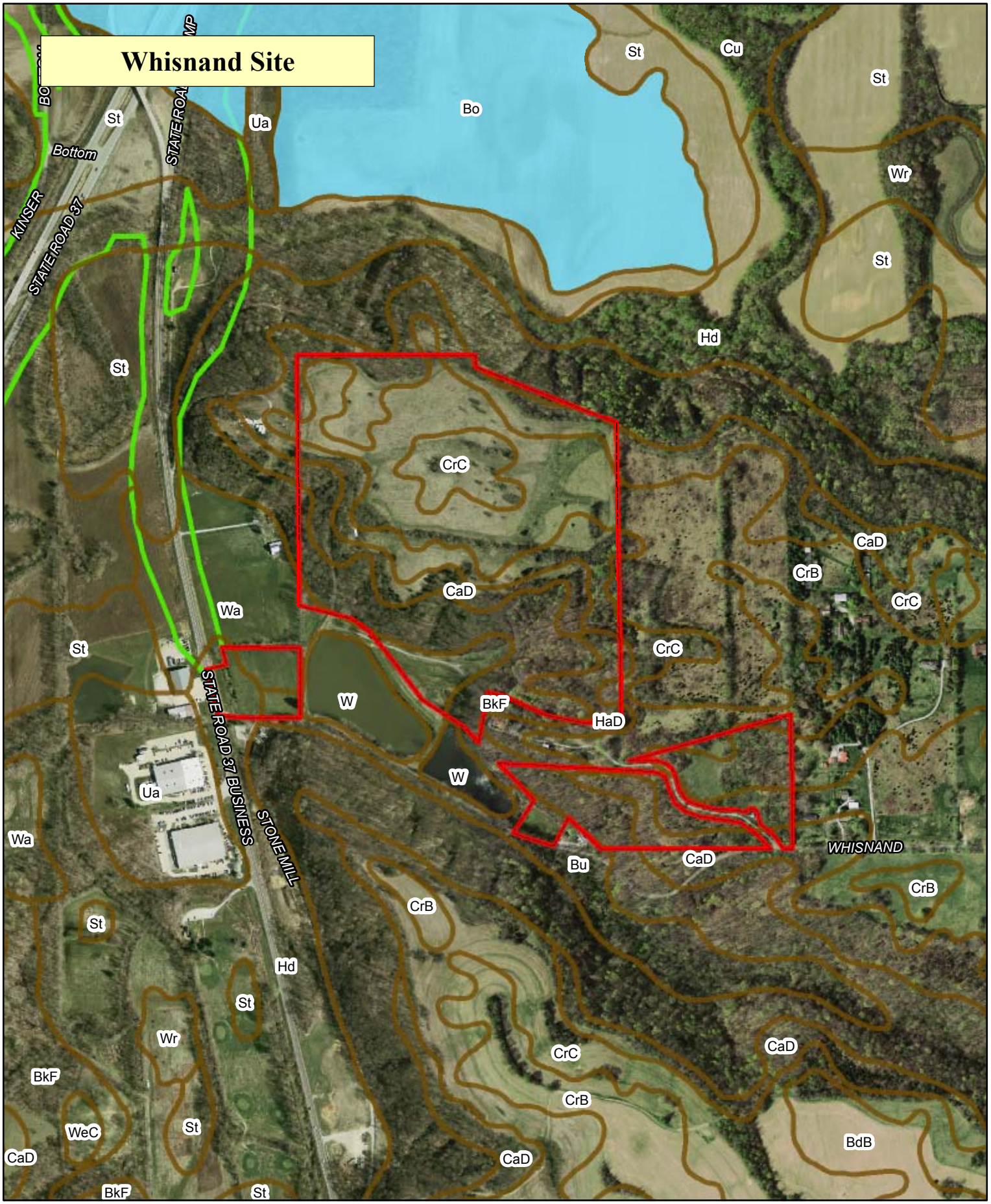
N

0 400 800 1,200 1,600

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Whisnand Site
600
700
650
750
9
Creek
588
Drive-in
Theater
WHISNAND
650
700
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (0 Linear Ft)
Ephemeral Stream (3,389 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Whisnand Site
St
Cu
St
Bo
Ua
Bottom
STATE ROAD 37
KINSER
Wr
St
Hd
St
CrC
CaD
CrB
CrC
CaD
Wa
St
CrC
W
BkF
HaD
W
STATE ROAD 37 BUSINESS
STONE MILL
Ua
Wa
WHISNAND
Bu
CaD
CrB
CrB
St
Hd
St
Wr
CrC
CaD
BkF
CrB
WeC
St
BdB
CaD
CaD
BkF
St
N
0
400
800
1,200
1,600
Feet
Mitigation Area
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: Bu - Burnside silt loam, occasionally flooded

Component: Burnside (100%)

The Burnside component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of loamy-skeletal alluvium over shale and siltstone. Depth to a root restrictive layer, bedrock, paralithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. A seasonal zone of water saturation is at 40 inches during January, February, March. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: CaD - Caneyville silt loam, 12 to 18 percent slopes

Component: Caneyville (100%)

The Caneyville component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on sinkholes. The parent material consists of clayey residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CrB - Crider silt loam, 2 to 6 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of loess and the underlying paleosol from clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: HaD - Hagerstown silt loam, 12 to 18 percent slopes

Component: Hagerstown (100%)

The Hagerstown component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on hills. The parent material consists of loess over clayey residuum weathered from limestone over limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: W - Water

Component: Water (100%)

Generated brief soil descriptions are created for major soil components. The Water is a miscellaneous area.

Map unit: Wa - Wakeland silt loam, frequently flooded

Component: Wakeland (97%)

The Wakeland component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix AA

Beanblossom Creek Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Beanblossom Creek

Location description:

This property is located on both the east and west sides of Old SR 37 just south of the SR 37 and Old SR 37 interchange.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☑ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☐ Other

☑ Conservation Easement ☐ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 58 Acres

Preservation Only: 35 Acres

Construction (Forest/Stream/Wetland): 0 Acres

Stream Development/Restoration: 1,325 ĆŜŝű

Existing Core Forest: 0 Acres

Future Core Forest: 0 Acres

Property description:

There are two parcels. One parcel is east of Walnut Street and is a bottomland swamp and field that the property owner would like fee simple, while the other parcel is west of Walnut Street and is an upland woods and property owner would like a conservation easement. The west parcel is in a low area that would be conducive to wetland development and stream mitigation while the parcel on the east side is primarily existing woods and will only provide preservation potential.

Special notes:

Bald eagle nest is located on the east property. This property is within the Lower White River Watershed (#05120202). It is within the Beanblossom Creek Focus Area.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

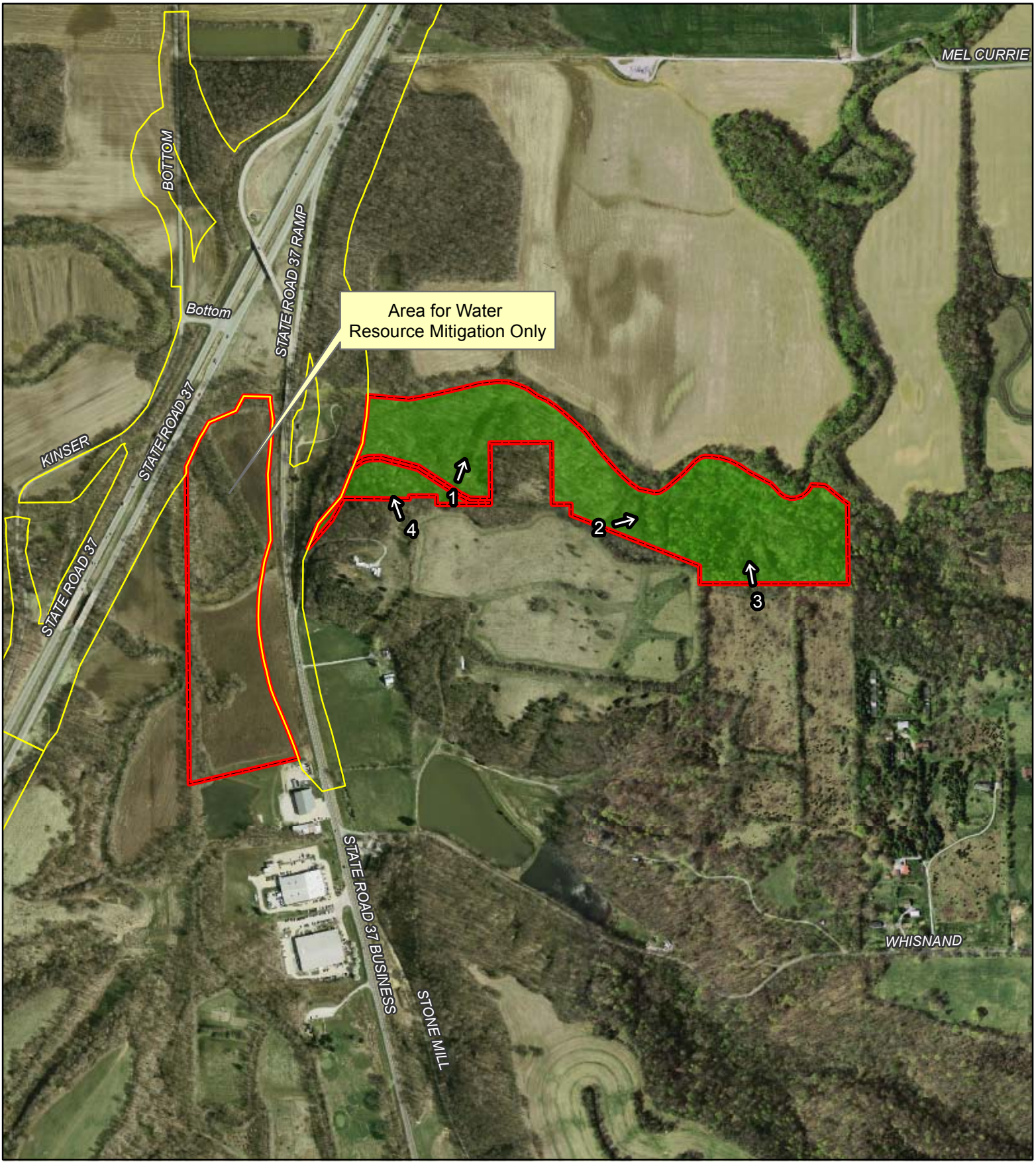


Photo Locations and Direction
I-69 Section 5 ROW
Existing Core Forest (0 Acres)
Future Core Forest (0 Acres)
Mitigation Area (58 Acres)
Potential Forest Preservation (35 Acres)

Beanblossom Creek site
Conceptual Plan Map
Shown on 2011 Aerial Photo
Bloomington Township - Monroe County, Indiana

1 inch = 750 feet

0 500 1,000 Feet

N

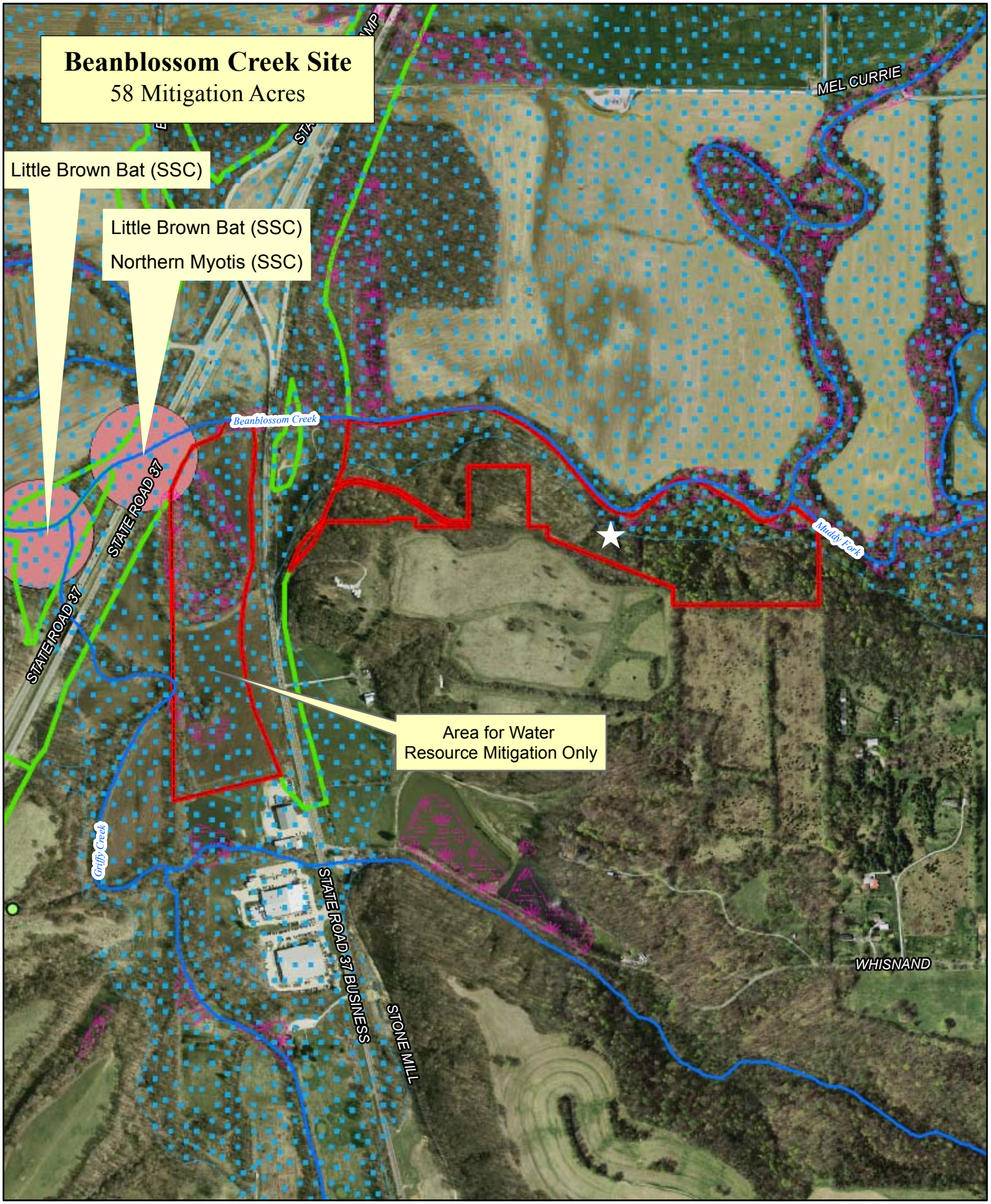
Beanblossom Creek Site Photos

Photo 1: Typical upland forest area

Photo 2: Forested area with bald eagle nest

Photo 3: Typical forest area

Photo 4: Typical bottomland field with woods



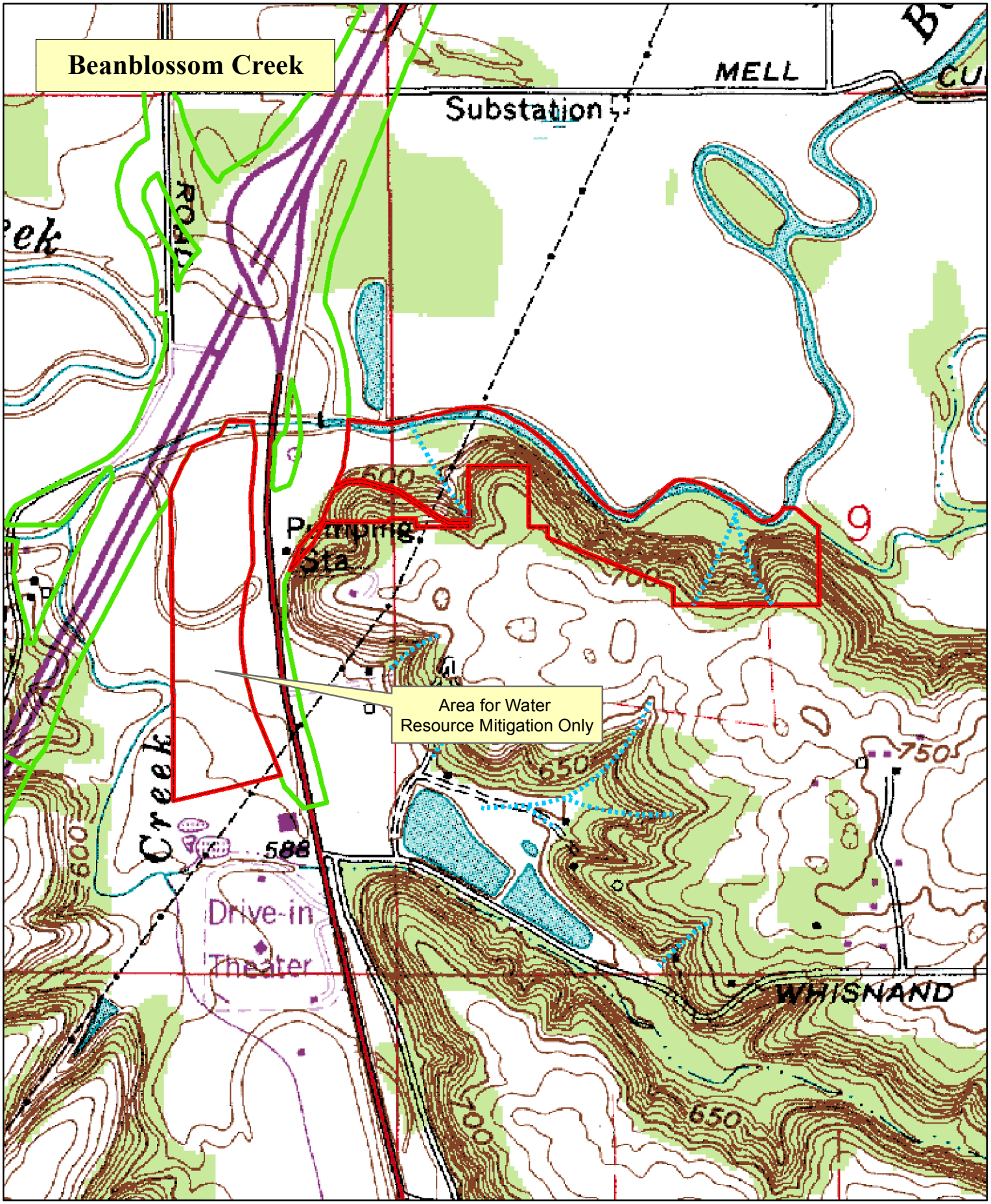
CONFIDENTIAL

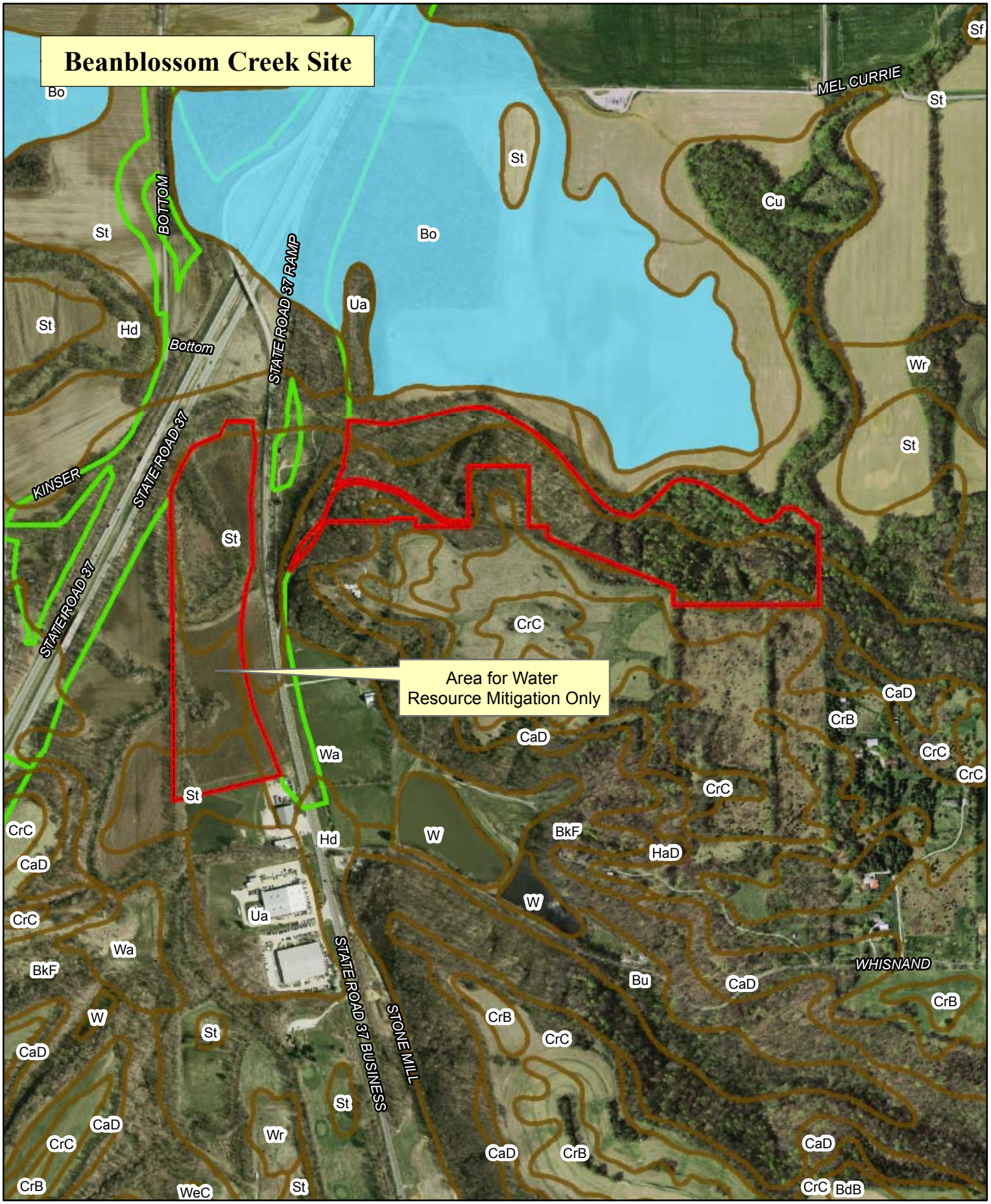
N

0 400 800 1,200 1,600

Feet

Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Beanblossom Creek
MELL
Substation
Area for Water
Resource Mitigation Only
Drive-in
Theater
WHISNAND
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (3,046 Linear Ft)
Ephemeral Stream (1,474 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Beanblossom Creek Site
Area for Water Resource Mitigation Only
MEL CURRIE
BOTTOM
Bottom
STATE ROAD 37 RAMP
STATE ROAD 37
KINSER
STATE ROAD 37
STATE ROAD 37 BUSINESS
STONE MILL
WHISNAND
Bo
St
Cu
Ua
Hd
Wr
Sf
CrC
CaD
Wa
W
BkF
HaD
CrB
Bu
WeC
BdB
N
0
400
800
1,200
1,600
Feet
Mitigation Area
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map unit: St - Stendal silt loam, frequently flooded

Component: Stendal (97%)

The Stendal component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Acid, fine-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: Wa - Wakeland silt loam, frequently flooded

Component: Wakeland (97%)

The Wakeland component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix BB

Kinser Pike Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Kinser Pike

Location description:

This property is located adjacent to SR 37 on the west side just south of the Kinser Pike and SR 37 intersection.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☑ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 43 Acres

Preservation Only: 35 Acres

Construction (Forest/Stream/Wetland): 8 Acres

Stream Development/Restoration: _____ Acres

Existing Core Forest: <1 Acres

Future Core Forest: 1 Acres

Property description:

There are no stream improvements or wetland development opportunities on this property. It is located along the west side of SR37. It has mature timber on the property with Stout Creek located near its center. The woods have not been cut for at least 30 years. It is a wooded property situated between SR37 and the Maple Grove Rural Road Historic District. Old field is currently growing up in scattered red cedars, dogwood and Autumn Olive.

Special notes:

This property is within the Lower White River Watershed (#05120202). It is within the Maple Grove Rural Road Historic District Focus Area. It could be considered a buffer between proposed I-69 and the Historic District.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

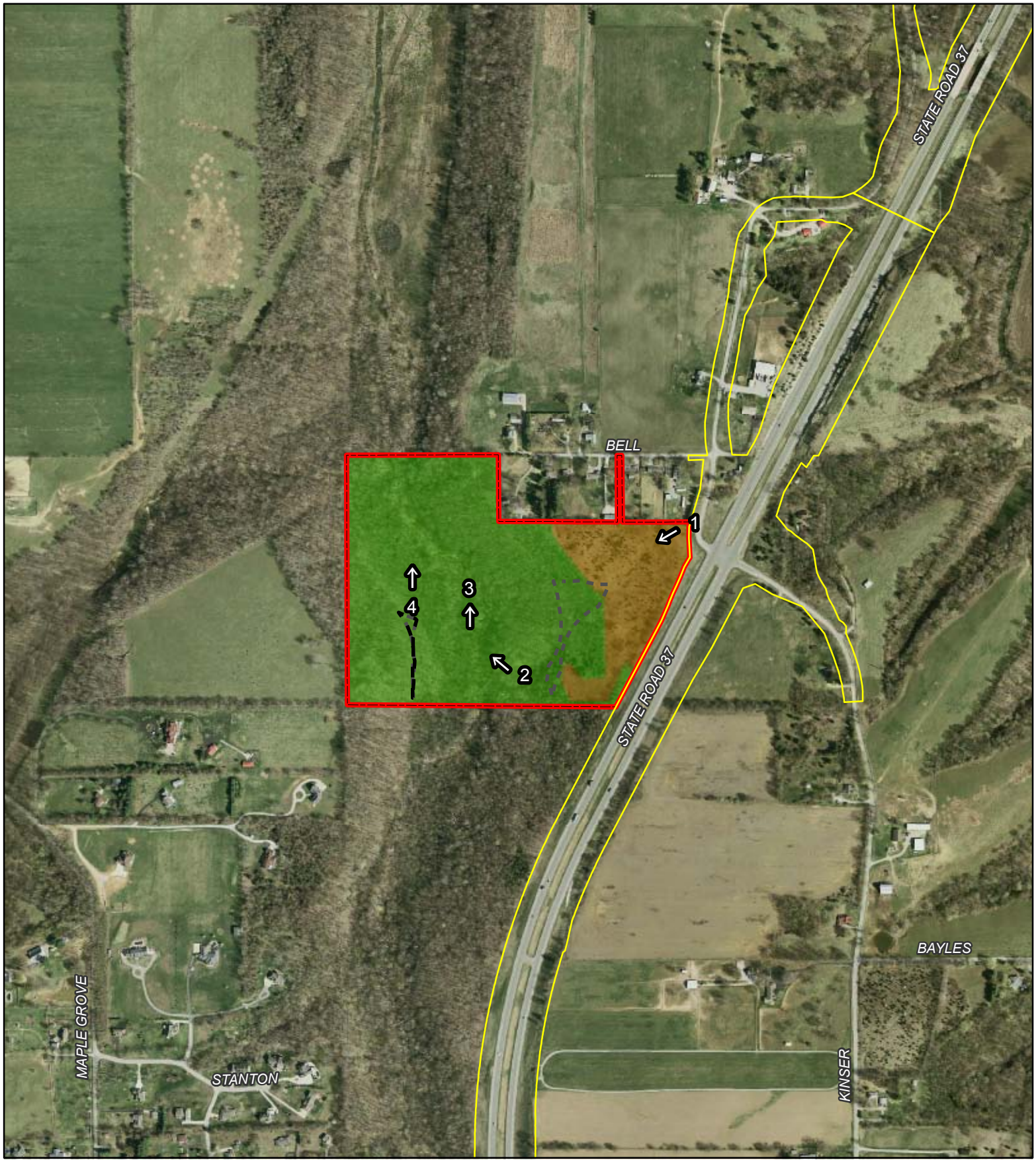


Photo Locations and Direction
Existing Core Forest (<1 Acre)
Future Core Forest (1 Acre)
Mitigation Area (43 Acres)
Potential Preservation Area (35 Acres)
Potential Reforestation Area (8 Acres)
I-69 Section 5 ROW

Kinser Pike Site
Detailed Property Map
Shown on 2011 Aerial Photo
BloomingtonTownship - Monroe County, Indiana

1 inch = 667 feet

0 500 1,000 Feet

N

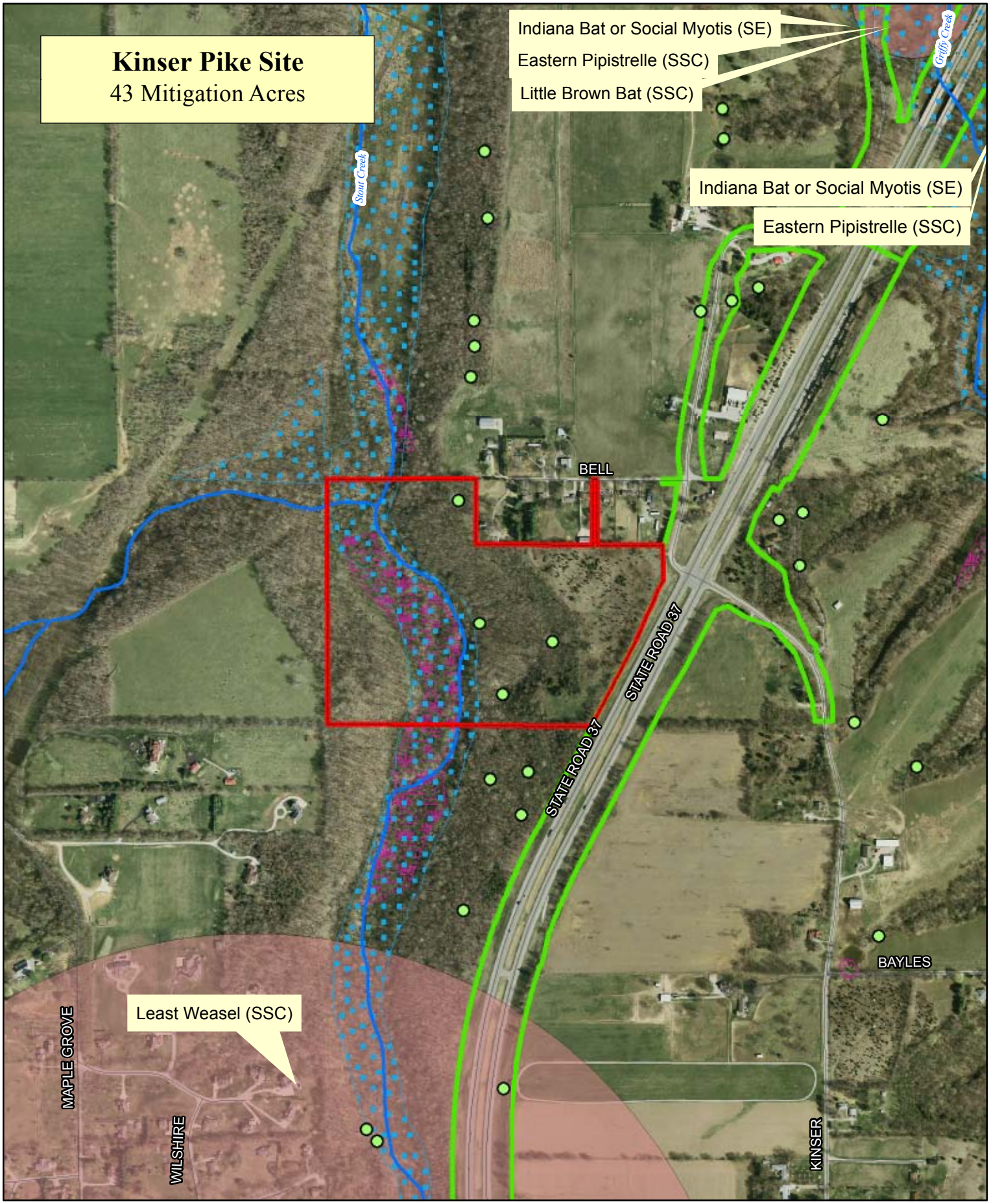
Kinser Pike Site Photos

Photo 1: Typical open field

Photo 2: Typical Stout Creek streambed

Photo 3: Eroded bank in creek

Photo 4: Typical forested area



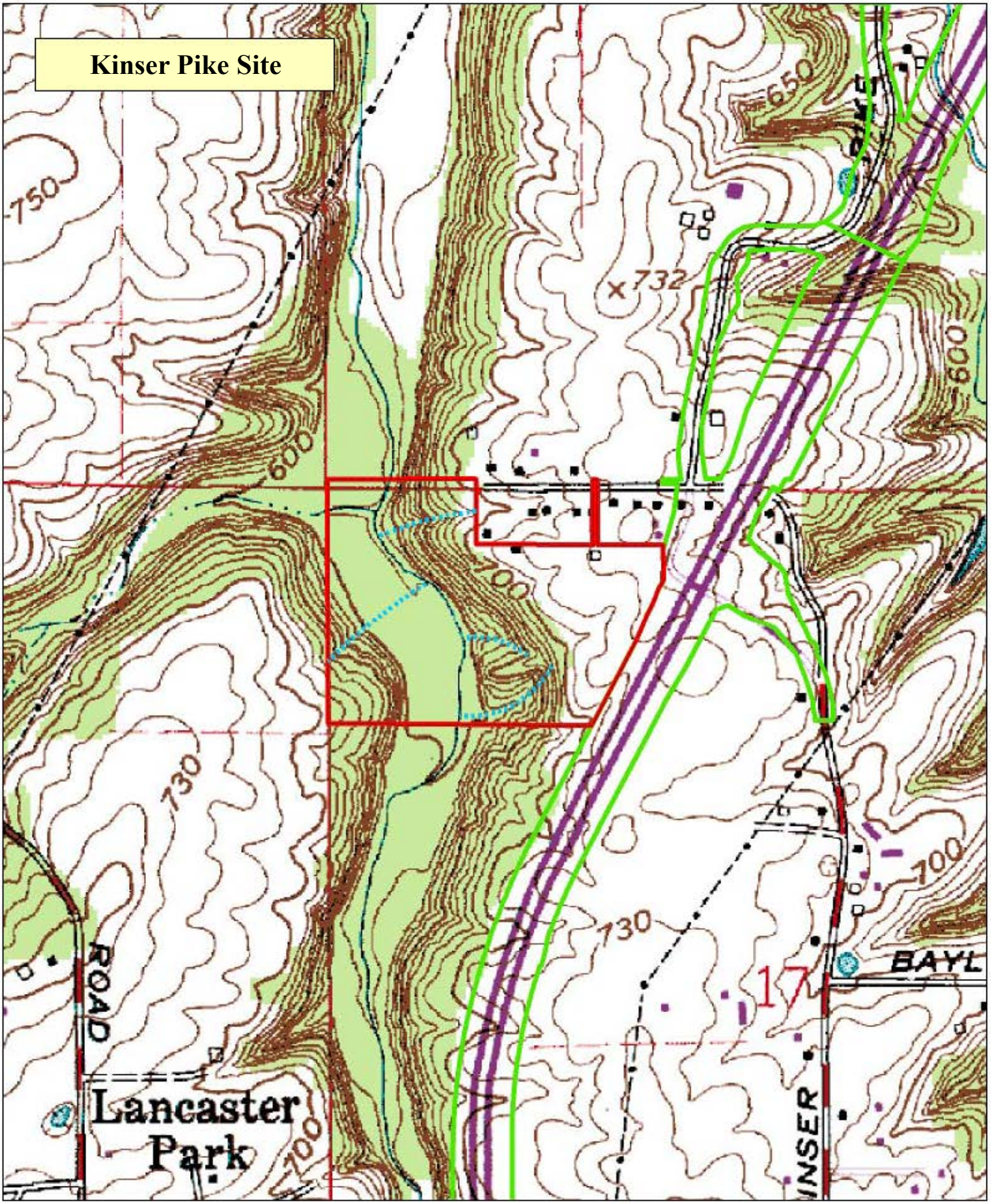
CONFIDENTIAL

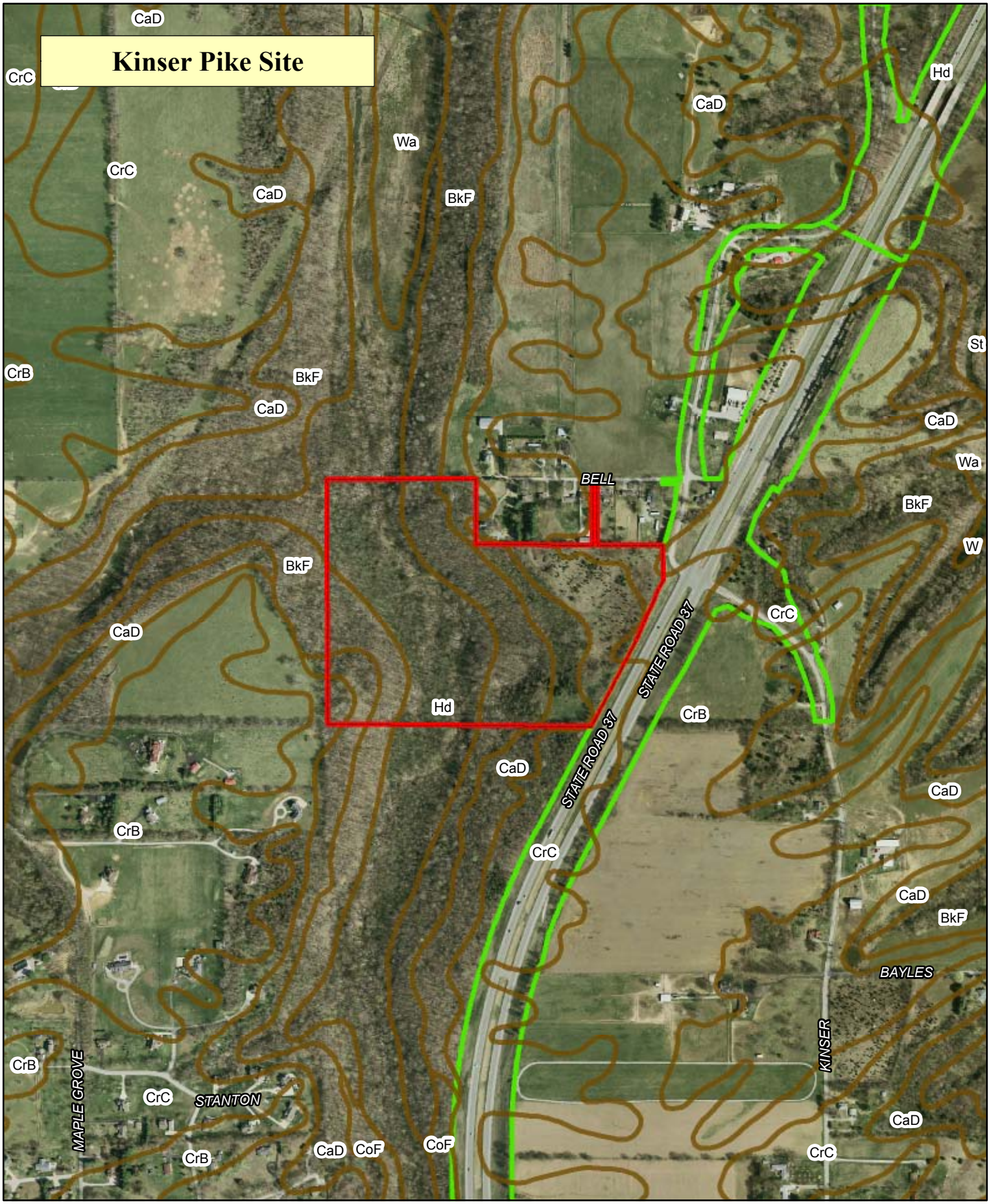
N

0 400 800 1,200 1,600

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Kinser Pike Site
750
650
732
600
600
100
730
700
130
700
ROAD
17
BAYL
Lancaster
Park
INSER
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (266 Linear Ft)
Perennial Stream (1,532 Linear Ft)
Ephemeral Stream (2,208 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Kinser Pike Site
CaD
CrC
Hd
Wa
BkF
CrB
St
W
BELL
STATE ROAD 37
STATE ROAD 37
MAPLE GROVE
STANTON
KINSER
BAYLES
CoF
N
0
400
800
1,200
1,600
Feet
Mitigation Area
I-69 Section 5 ROW
Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: CaD - Caneyville silt loam, 12 to 18 percent slopes

Component: Caneyville (100%)

The Caneyville component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on sinkholes. The parent material consists of clayey residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CrB - Crider silt loam, 2 to 6 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on hills. The parent material consists of loess and the underlying paleosol from clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix CC

Stout Creek Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Stout Creek

Location description:

This property is located adjacent to SR 37 on the west side, north of Acuff Road and south of Kinser Pike.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☑ Maple Grove Road Rural Historic District
- ☐ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 16 Acres

Preservation Only: 16 Acres

Construction (Forest/Stream/Wetland): 0 Acres

Stream Development/Restoration: _____ ĆŜŝű

Existing Core Forest: 4 Acres

Future Core Forest: 4 Acres

Property description:

There are no stream improvements or wetland development opportunities on this property. It has mature timber on the property with Stout Creek located near its center. The woods have not been cut for many years. It is a wooded property situated between SR 37 and the Maple Grove Rural Road Historic District.

Special notes:

This property is within the Lower White River Watershed (#05120202). It is also within the Maple Grove Rural Road Historic District Focus Area. It could be considered a buffer between proposed I-69 and this Historic District.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

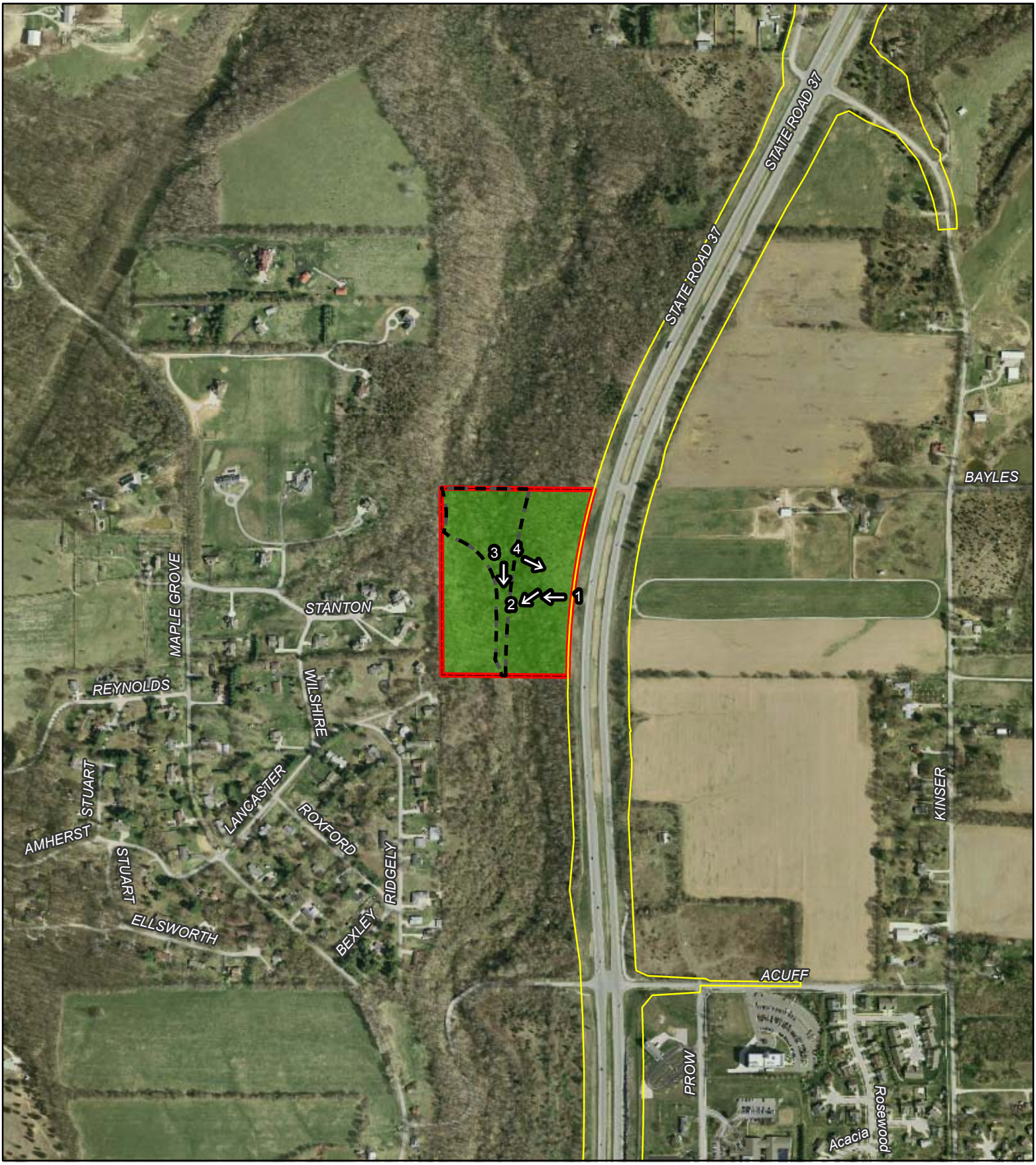


Photo Locations and Direction
Existing Core Forest (4 Acres)
Future Core Forest (4 Acres)
Mitigation Area
Potential Preservation (16 Acres)
I-69 Section 5 ROW

Stout Creek Site
Detailed Property Map
Shown on 2011 Aerial Photo
Bloomington Township - Monroe County, Indiana

1 inch = 667 feet

0 500 1,000 Feet

N

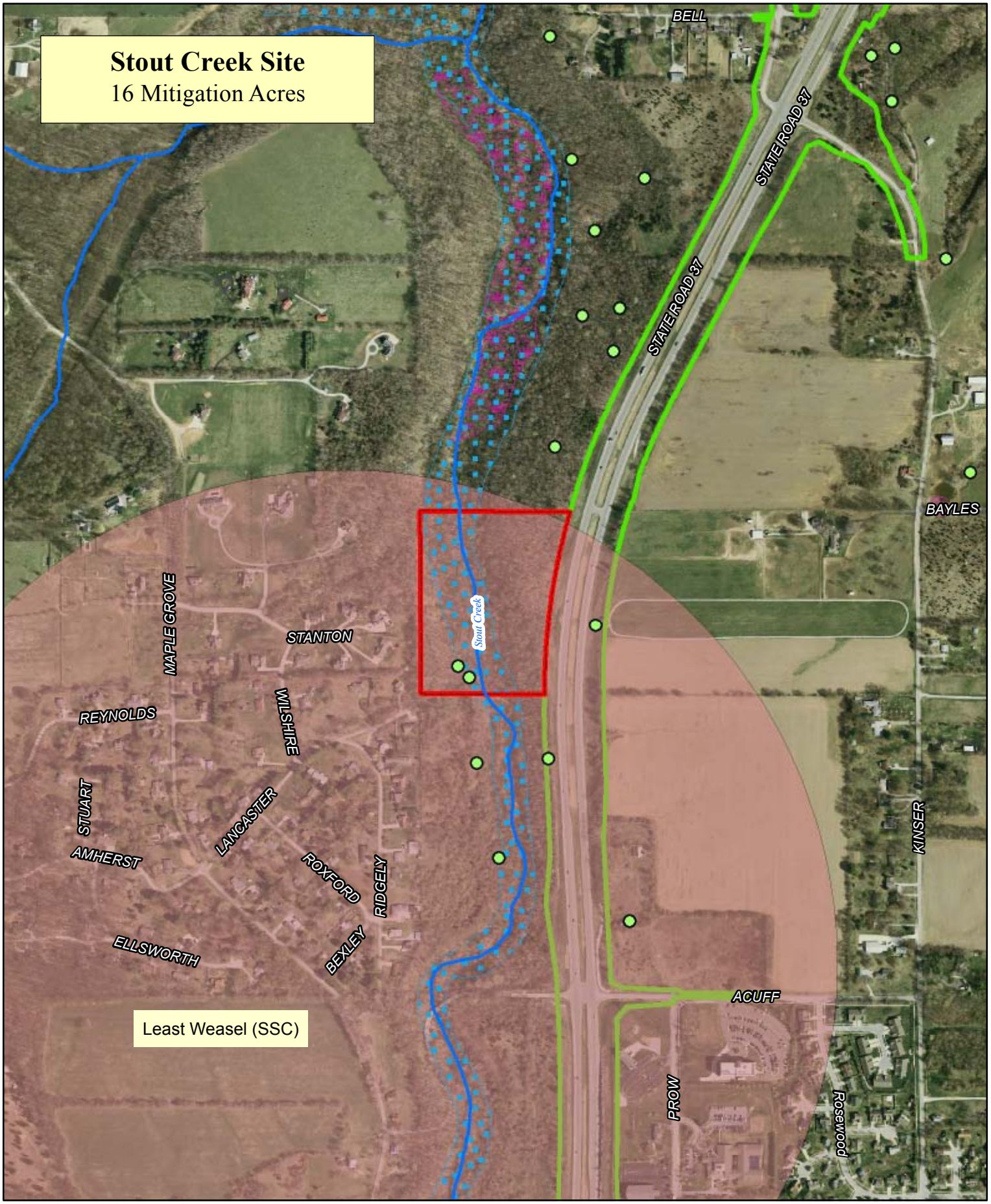
Stout Creek Site Photos

Photo 1: Typical wooded area

Photo 2: Typical wooded area

Photo 3: Stout Creek looking downstream

Photo 4: Typical wooded area



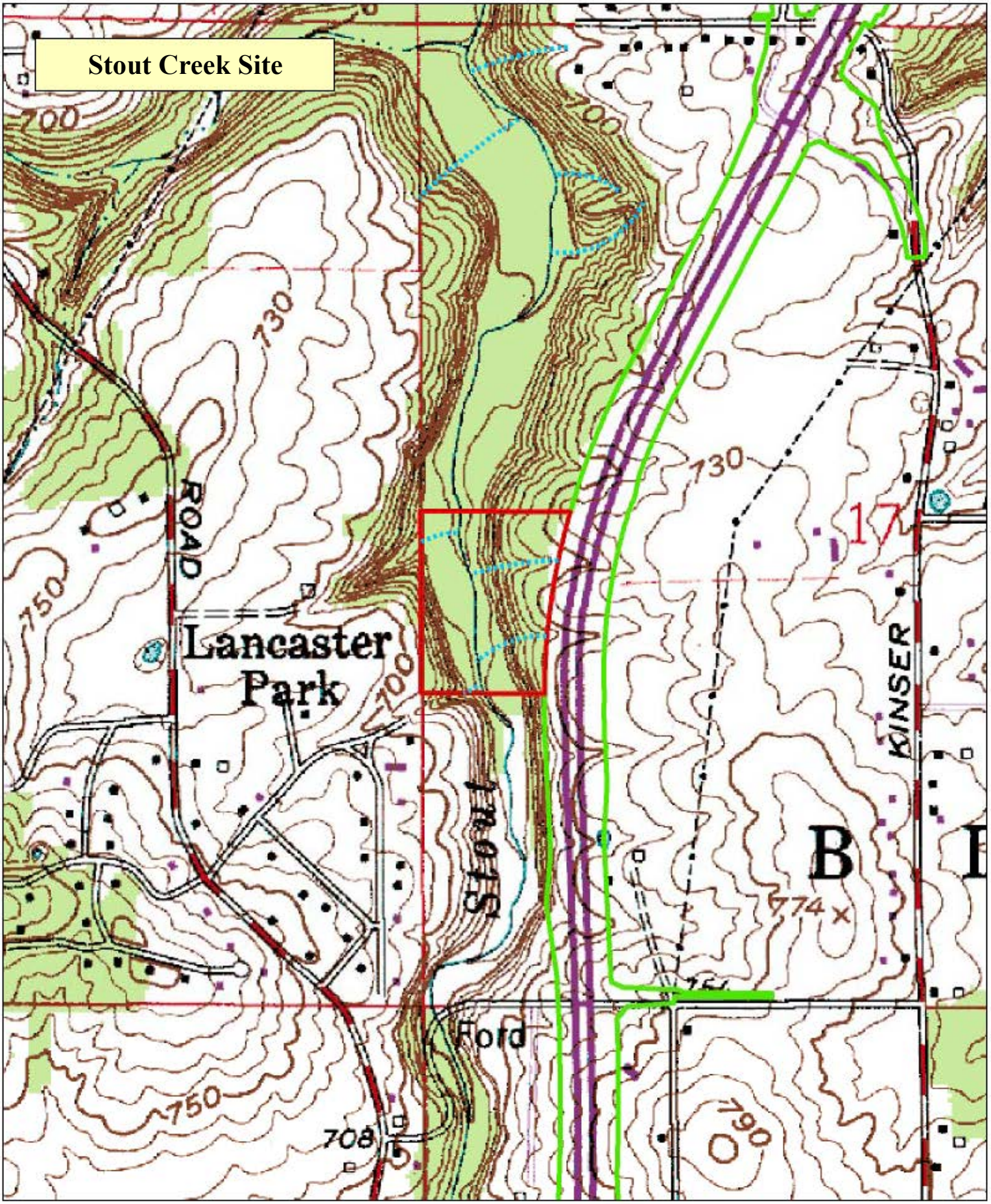
CONFIDENTIAL

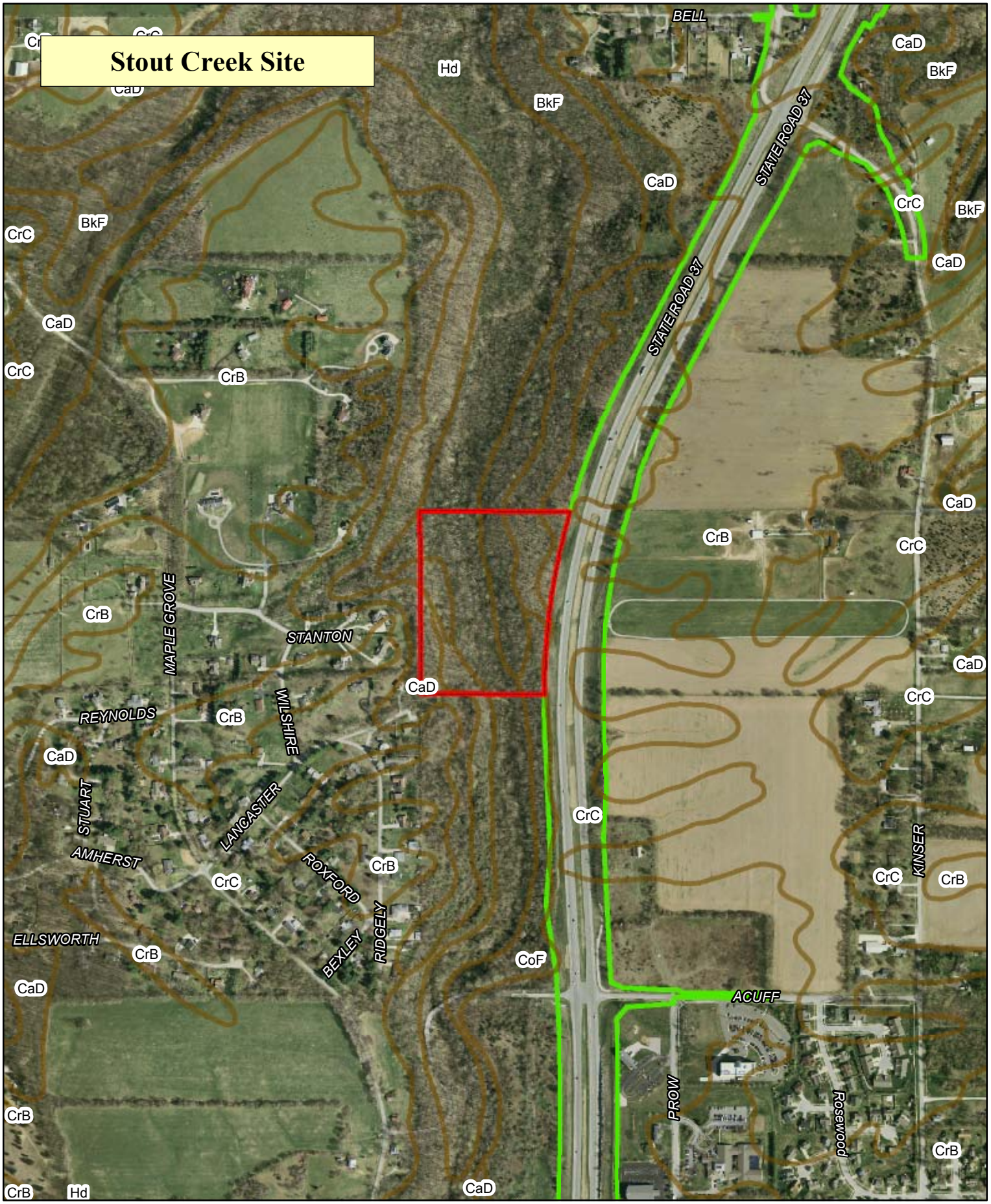
N

0 400 800 1,200 1,600

Feet

- Endangered Species CONFIDENTIAL
- Mitigation Area
- Kast Springs (Section 5)
- Karst Springs (state)
- Caves
- Stream
- IDNR Floodplain
- NWI Wetlands
- I-69 Section 5 ROW


Stout Creek Site
700
730
750
ROAD
Lancaster
Park
700
Stout
Ford
750
708
100
130
17
KINSER
B
774
790
N
0
400
800
1,200
1,600
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (999 Linear Ft)
Ephemeral Stream (1,204 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Stout Creek Site
BELL
STATE ROAD 37
STATE ROAD 37
MAPLE GROVE
STANTON
REYNOLDS
WILSHIRE
STUART
LANCASTER
AMHERST
ROXFORD
BEXLEY
RIDGELY
ELLSWORTH
ACUFF
PROW
Rosewood
KINSER
CaD
CrC
CrB
BkF
Hd
CoF
N
0
400
800
1,200
1,600
Feet
Mitigation Site
I-69 Section 5 ROW
Soils
Hydric Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: BkF - Berks-Weikert complex, 25 to 75 percent slopes

Component: Berks (60%)

The Berks component makes up 60 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of Residuum. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Weikert (40%)

The Weikert component makes up 40 percent of the map unit. Slopes are 25 to 75 percent. This component is on hills. The parent material consists of loamy residuum over sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map unit: CaD - Caneyville silt loam, 12 to 18 percent slopes

Component: Caneyville (100%)

The Caneyville component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on sinkholes. The parent material consists of clayey residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CoF - Corydon Variant-Caneyville Variant complex, 25 to 70 percent slopes

Component: Corydon variant (55%)

The Corydon variant component makes up 55 percent of the map unit. Slopes are 25 to 70 percent. This component is on hills. The parent material consists of clayey residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 4 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Caneyville variant (45%)

The Caneyville variant component makes up 45 percent of the map unit. Slopes are 25 to 50 percent. This component is on hills, karst. The parent material consists of clayey-skeletal residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Map Unit Description (Brief, Generated)

Monroe County, Indiana

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix DD

Victor Pike Site

Section 5 Mitigation
Site Form

DES #: _____

Site Name: Victor Pike

Location description:

This property is located along Clear Creek and an unnamed tributary to Clear Creek near Tramway Road.

Focus Area

- ☐ Bryant Creek Maternity Colony
- ☐ Beanblossom Bottoms
- ☐ Morgan-Monroe State Forest
- ☐ Maple Grove Road Rural Historic District
- ☑ Other

☐ Conservation Easement ☑ Fee Simple Purchase

Expected Price from Owner: _____

Classified Forest: ☐ Yes ☐ No

Hydric Soils: ☐ Yes ☑ No

Archaeology: _____

Total Mitigation Area: 47 Acres

Preservation Only: 14 Acres

Construction (Forest/Stream/Wetland): 33 Acres

Stream Development/Restoration: 2,868 ĊŜŝű

Existing Core Forest: 0 Acres

Future Core Forest: 2 Acres

Property description:

Clear Creek and an unnamed tributary of Clear Creek (limestone base) flow through this property. There are opportunities for stream improvements on this property. There are two old railroad beds (no tracks on either) on property. One railroad bed showed an old railroad bridge and additional concrete structures.

Special notes:

PCBs and kreosotecreosote may be in Clear Creek sediments and invasive plants are found on this property. This property is within the East Fork of White River Watershed (#05120208). It is not within an assigned Focus Area for Section 5. It is in the upper section of Section 4.

- ☑ 1. Initial contact
- ☑ 2. Information gathering
- ☑ 3. Initial meeting with property owner
- ☑ 4. Property owner agrees to completion of an appraisal
- ☑ 5. Begin CE
- ☐ 6. Site concept with property owner/Preliminary boundary research
- ☐ 7. CE Approved (notify R/W so parcel can be appraised)
- ☐ 8. Release of funds by INDOT (project must be in STIP)
- ☐ 9. Begin R/W acquisition process (deed search and survey work)
- ☐ 10. Appraise property and send to INDOT (buyer)
- ☐ 11. INDOT presents offer to land owner
  - ☐ a. Land owner agreed to "Fair Market Value"
  - ☐ b. Land owner declined the offer
  - ☐ c. Land owner made a counter offer
    - ☐ i. INDOT agreed with counter offer
    - ☐ ii. INDOT declined the negotiations
- ☐ 12. Complete draft Mitigation and Monitoring Plan and send to INDOT and USFWS for review.
- ☐ 13. Revise and finalize Mitigation and Monitoring Plan (site construction begins)
- ☐ 14. Complete construction (5-10 year monitoring begins)

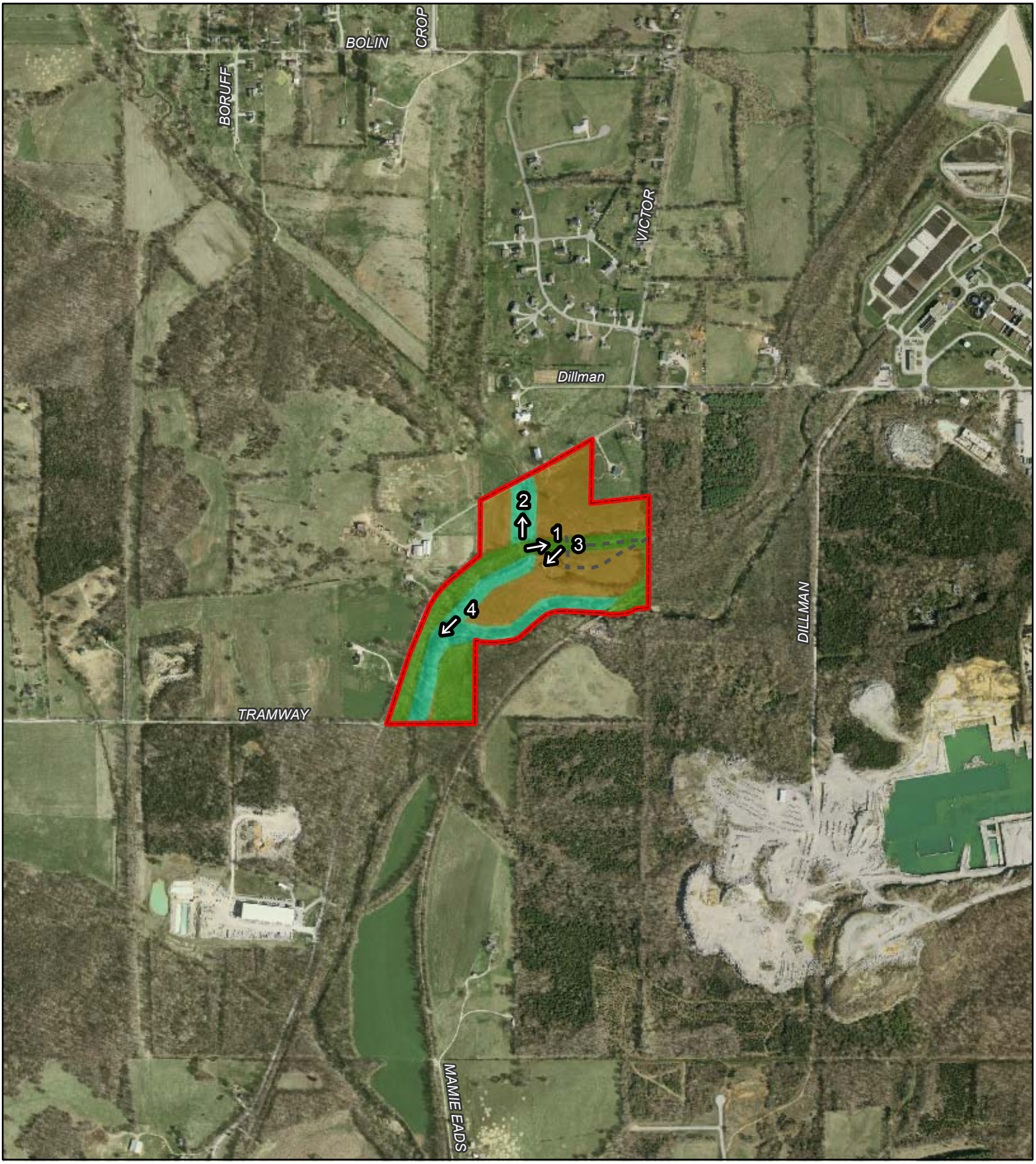


Photo Locations and Direction
Existing Core Forest (0 Acres)
Future Core Forest (2 Acres)
Mitigation Area (47 Acres)
Potential Preservation (14 Acres)
Potential Reforestation Area (22 Acres)
Potential Riparian Area (11 Acres)
I-69 Section 5 ROW

Victor Pike Site
Detailed Property Map
Shown on 2011 Aerial Photo
PerryTownship - Monroe County, Indiana

1 inch = 1,000 feet

0 500 1,000 1,500 Feet

N

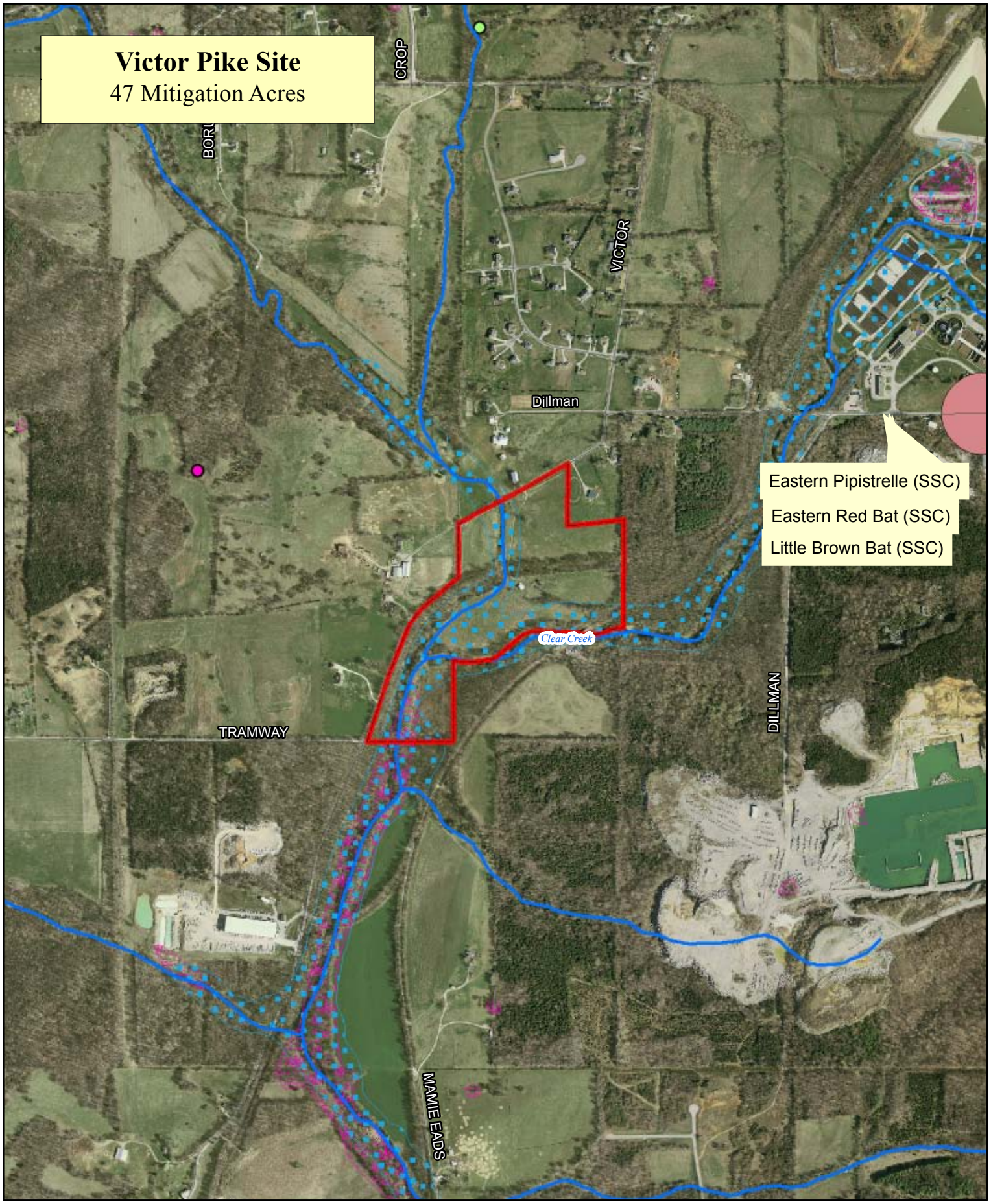
Victor Pike Site Photos

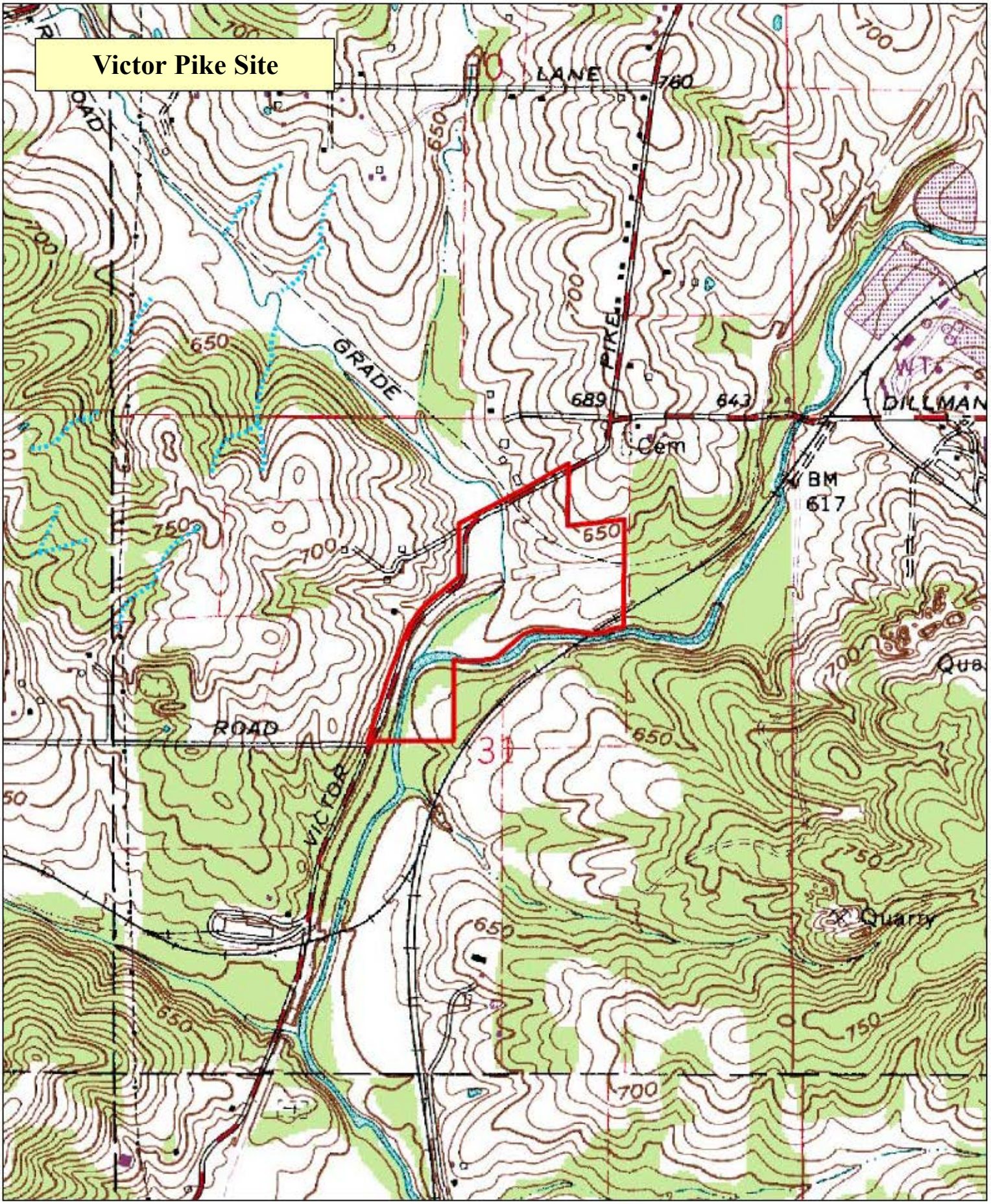
Photo 1: Typical forest area

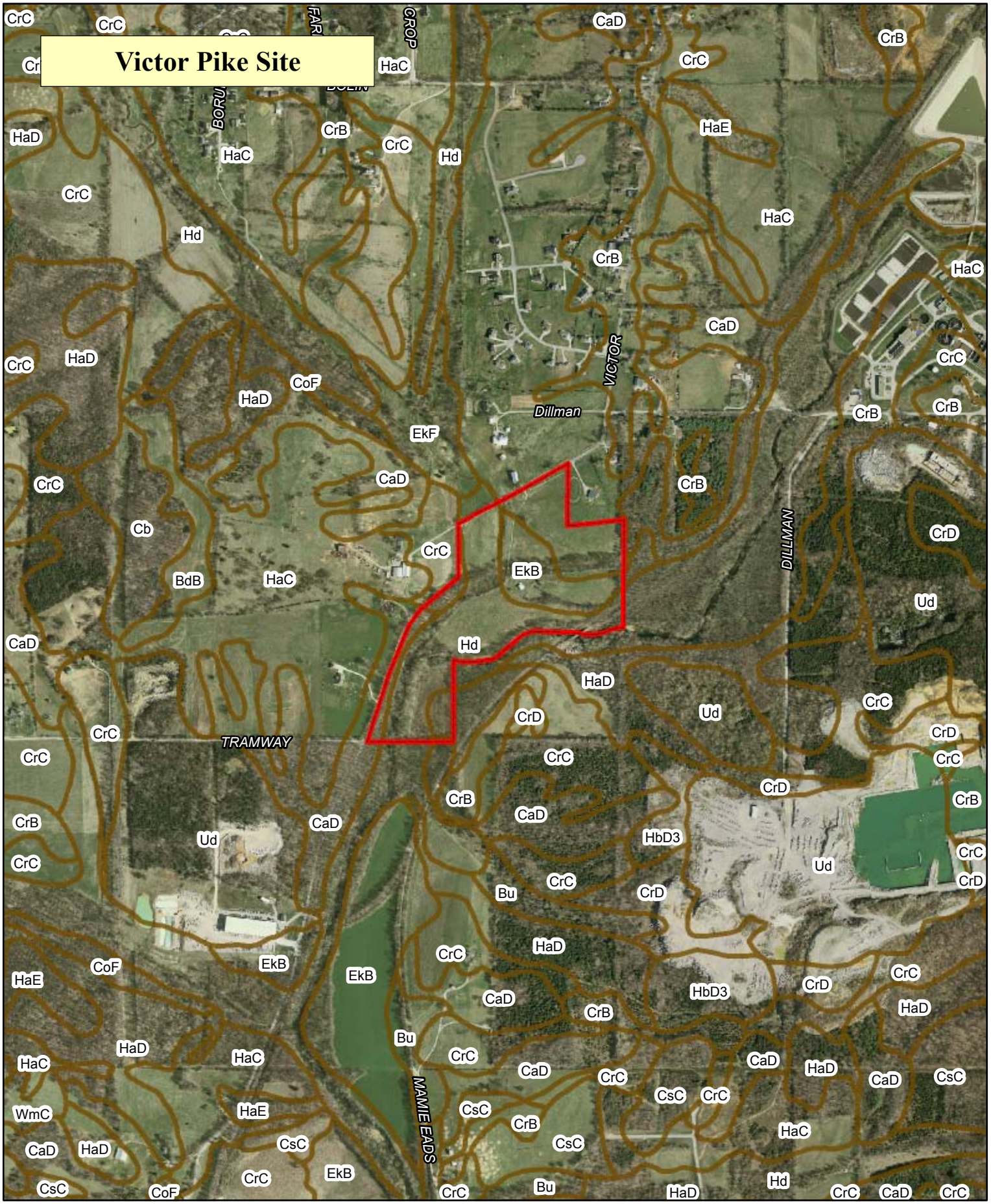
Photo 2: Typical creek bed (Tributary to Clear Creek)

Photo 3: Typical open field

Photo 4: Clear Creek


Victor Pike Site
47 Mitigation Acres
CROP
VICTOR
Dillman
Eastern Pipistrelle (SSC)
Eastern Red Bat (SSC)
Little Brown Bat (SSC)
Clear Creek
DILLMAN
TRAMWAY
MAMIE EADS
CONFIDENTIAL
N
0 400 800 1,200 1,600 2,000 2,400
Feet
Endangered Species CONFIDENTIAL
Mitigation Area
Kast Springs (Section 5)
Karst Springs (state)
Caves
Stream
IDNR Floodplain
NWI Wetlands
I-69 Section 5 ROW


Victor Pike Site
LANE
760
650
700
PIKE
689
643
DILLMAN
Cem
BM
617
GRADE
750
ROAD
31
VICTOR
Quarry
N
0
400
800
1,200
1,600
2,000
2,400
Feet
Intermittent Stream (0 Linear Ft)
Perennial Stream (2,868 Linear Ft)
Ephemeral Stream (0 Linear Ft)
Mitigation Area
I-69 Section 5 ROW


Victor Pike Site
CrC
CaD
CrB
HaC
HaE
HaD
Hd
CoF
EkF
EkB
Cb
BdB
Ud
HbD3
Bu
CsC
WmC
VICTOR
DILLMAN
TRAMWAY
MAMIE EADS
Dillman
N
0 400 800 1,200 1,600 2,000 2,400
Feet
Mitigation Area
I-69 Section 5 ROW
Soils

Map Unit Description (Brief, Generated)

Monroe County, Indiana

[Minor map unit components are excluded from this report]

Map unit: CaD - Caneyville silt loam, 12 to 18 percent slopes

Component: Caneyville (100%)

The Caneyville component makes up 100 percent of the map unit. Slopes are 12 to 18 percent. This component is on sinkholes. The parent material consists of clayey residuum over limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: CrC - Crider silt loam, 6 to 12 percent slopes

Component: Crider (100%)

The Crider component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum. Depth to a root restrictive layer, bedrock, lithic, is 60 to 120 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: EkB - Elkinsville silt loam, 2 to 6 percent slopes

Component: Elkinsville (100%)

The Elkinsville component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on stream terraces. The parent material consists of Thin loess and the underlying alluvium; or alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: HaC - Hagerstown silt loam, 6 to 12 percent slopes

Component: Hagerstown (100%)

The Hagerstown component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on hills. The parent material consists of loess over clayey residuum weathered from limestone over limestone. Depth to a root restrictive layer, bedrock, lithic, is 40 to 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Hd - Haymond silt loam, frequently flooded

Component: Haymond (97%)

The Haymond component makes up 97 percent of the map unit. Slopes are 0 to 2 percent. This component is on flood plains. The parent material consists of Coarse-silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is very high. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Appendix EE

IDNR Tree List

Woody Riparian Vegetation

Common name	Species name	Region 3 status	Type of plant	Tree, Shrub, Vine	Coefficient of Conservatism	Comment
Box Elder	Acer negundo	FACW-	Large Understory Tree	T	1	
Black Maple	Acer nigrum	FAC	Large Canopy Tree	T	6	
Red Maple	Acer rubrum	FAC	Large Canopy Tree	T	5	
Silver Maple	Acer saccharinum	FACW	Large Canopy Tree	T	1	
Sugar Maple	Acer saccharum	FACU	Large Canopy Tree	T	4	
Ohio Buckeye	Aesculus glabra	FAC+	Large Understory Tree	T	5	
Indigobush	Amorpha fruticosa	FACW-	Medium Shrub	S	3	
Black Chokeberry	Aronia melanocarpa	FACW-	Medium Shrub	S	8	
Common Paw Paw	Asimina triloba	FAC	Small Understory Tree	T	6	
River Birch	Betula nigra	FACW	Small Canopy Tree	T	2	
American Hornbeam	Carpinus caroliniana	FAC	Medium Understory Tree	T	5	
Bitternut Hickory	Carya cordiformis	FAC	Large Canopy Tree	T	5	
Pecan	Carya illinoensis	FACW	Large Canopy Tree	T	4	Extreme southwestern counties
Shellbark Hickory	Carya laciniosa	FACW	Large Canopy Tree	T	8	
Shagbark Hickory	Carya ovata	FACU	Large Canopy Tree	T	4	
Sugarberry	Celtis laevigata	FACW	Large Understory Tree	T	7	
Hackberry	Celtis occidentalis	FAC-	Large Canopy Tree	T	3	
Buttonbush	Cephalanthus occidentalis	OBL	Medium Shrub	S	5	
Redbud	Cercis canadensis	FACU	Small Understory Tree	T	3	
Alternate-leaf Dogwood	Cornus alternifolia	FACU-	Small Understory Tree	T	8	
Pale Dogwood (formerly Silky Dogwood)	Cornus obliqua	FACW+	Medium Shrub	S	5	
Roughleaf Dogwood	Cornus drummondii	FAC-	Medium Shrub	S	2	
Flowering Dogwood	Cornus florida	FACU-	Small Understory Tree	T	4	Susceptible to dogwood anthracnose
Gray Dogwood	Cornus racemosa	FACW-	Medium Shrub	S	2	
Hazelnut	Corylus americana	FACU-	Medium Shrub	S	4	
Cockspur Hawthorn	Crataegus crus-galli	FAC	Small Understory Tree	T	4	
Downy Hawthorn	Crataegus mollis	FACW-	Small Understory Tree	T	2	

Dotted hawthorn	Crataegus punctata		Small Understory Tree	T	2	Okay in floodplains; not in extreme southwestern counties
Persimmon	Diospyros virginiana	FAC	Medium Understory Tree	T	2	
American Beech	Fagus grandifolia	FACU	Large Canopy Tree	T	8	
Honey Locust	Gleditsia triacanthos	FAC	Small Canopy Tree	T	1	
Kentucky Coffeetree	Gymnocladus dioicius	FACU	Large Canopy Tree	T	4	
Witch Hazel	Hamamelis virginiana	FACU	Small Understory Tree	T	5	
Smooth Hydrangea	Hydrangea arborescens	FACU-	Small Shrub	S	7	
Common Winterberry	Ilex verticillata	FACW+	Medium Shrub	S	8	
Butternut (White Walnut)	Juglans cinerea	FACU+	Small Canopy Tree	T	5	Scattered within range; susceptible to butternut canker
Black Walnut	Juglans nigra	FACU	Large Canopy Tree	T	2	
Spicebush	Lindera benzoin	FACW-	Medium Shrub	S	5	
Sweet Gum	Liquidambar styraciflua	FACW	Large Canopy Tree	T	4	
Tuliptree	Liriodendron tulipifera	FACU+	Large Canopy Tree	T	4	
Wild Sweet Crabapple	Malus coronaria		Medium Understory Tree	T		
Common Moonseed	Menispermum canadense	FAC	Low Vine	V	3	
Black Gum	Nyssa sylvatica	FAC	Large Understory Tree	T	5	
Hop Hornbeam	Ostrya virginiana	FACU-	Medium Understory Tree	T	5	
Virginia Creeper	Parthenocissus quinquefolia	FAC-	Vine	V	2	
Common Ninebark	Physocarpus opulifolius	FACW-	Small Shrub	S	7	
American Sycamore	Platanus occidentalis	FACW	Large Canopy Tree	T	3	
Eastern Cottonwood	Populus deltoides	FAC+	Large Canopy Tree	T	1	
Swamp Cottonwood	Populus heterophylla	OBL	Large Canopy Tree	T	8	Scattered within its range
American Plum	Prunus americana	UPL	Small Understory Tree	T	4	Also along riverbanks
Black Cherry	Prunus serotina	FACU	Small Canopy Tree	T	1	
Common Hop-tree	Ptelea trifoliata	FACU+	Medium Shrub	S	4	
White Oak	Quercus alba	FACU	Large Canopy Tree	T	5	
Swamp White Oak	Quercus bicolor	FACW+	Large Canopy Tree	T	7	
Southern Red Oak	Quercus falcata	FACU-	Med.-Lg. Canopy Tree	T	5	Far southern and southwestern counties
Shingle Oak	Quercus imbricaria	FAC-	Medium Canopy Tree	T	3	
Overcup Oak	Quercus lyrata	OBL	Medium Canopy Tree	T	7	Extreme southwestern counties
Bur Oak	Quercus macrocarpa	FAC-	Large Canopy Tree	T	5	

Swamp Chestnut Oak	Quercus michauxii	FACW	Med.-Lg. Canopy Tree	T	7	Far southern and southwestern counties
Chinkapin Oak	Quercus muehlenburgii	UPL	Med.-Lg. Canopy Tree	T	4	Also along well-drained riverbanks
Pin Oak	Quercus palustris	FACW	Small Canopy Tree	T	3	
Northern Red Oak	Quercus rubra	FACU	Large Canopy Tree	T	4	
Shumard Oak	Quercus shumardii	FACW-	Large Canopy Tree	T	7	
Post Oak	Quercus stellata	FACU-	Sm.-Med. Canopy Tree	T	5	Seasonally swampy woods in SW counties
Pasture Gooseberry	Ribes cynosbati	FACW	Small Shrub	S	4	
Carolina Rose	Rosa carolina	FACU-	Small Shrub	S	4	
Sandbar Willow	Salix interior	OBL	Medium Shrub	S	1	
Black Willow	Salix nigra	OBL	Large Understory Tree	T	3	
Elderberry	Sambucus canadensis	FACW-	Medium Shrub	S	2	
Bristly Greenbriar	Smilax hispida	FAC	Vine	V	3	
American Bladdernut	Staphylea trifolia	FAC	Medium Shrub	S	5	
Bald Cypress	Taxodium distichum	OBL	Large Canopy Tree	T	10	Only in Vanderburgh, Posey, Warrick, Knox, Gibson Co.
American Basswood	Tilia americana	FACU	Large Canopy Tree	T	5	
American Elm	Ulmus americana	FACW-	Large Canopy Tree	T	3	Susceptible to Dutch elm disease; typically grows as a small understory tree
Slippery Elm	Ulmus rubra	FAC	Large Canopy Tree	T	3	
Black Haw	Viburnum prunifolium	FACU	Medium Shrub	S	4	
Riverbank Grape	Vitis riparia	FACW-	Vine	V	1	

Appendix FF

Section 5 Karst Report Glossary

GLOSSARY OF KEY TERMS

(As defined for this report)

General Terms

Corridor	A 2,000 foot wide area centered on existing SR 37. The I-69 Tier 2 Section 5 Corridor extends from just south of Bloomington in Monroe County, Indiana, to the southern edge of Martinsville in Morgan County, Indiana.
Section 4	The study area south of Section 5, where the proposed I-69 corridor departs from SR 37 and heads to the west on new alignment.
Section 6	The study area to the north of Section 5. This study area extends along SR 37 from Martinsville north to Indianapolis, Indiana.

Biological Terms

Commensal	A species that benefits from the association with a host species, which is substantially unaffected.
Troglobite	An obligate cave dweller.
Stygobite	An aqueous obligate subterranean dweller.

Karst Terms

Bloomington Karst	The portion of relevant karst from just south of Bloomington to the SR 37/SR 46 interchange.
Bloomington North Karst	The portion of relevant karst from the SR 37/SR 46 interchange to the south side of the Beanblossom Creek valley.
Cave	A naturally occurring void in earth materials that can be entered by a human for an appreciable distance.
Cave System	An assemblage of karst features that may contain multiple caves, water inlets, and springs that are all related. For management purposes, the cave system is generally the category of interest since fauna and water movement in a cave system are rarely restricted in areas where humans cannot enter.

Drainage Area	Drainage area (as informally used in the MOU) is used in this report synonymously with recharge area (i.e., "the land surface that contributes at least some water under some flow conditions to a particular karst feature.")
Dye Trace	A dye trace for this project consisted of the following actions: 1) the introduction of dye into an insurgence feature with either existing water flow and/or with potable water, 2) travel of the dye through the karst groundwater system, 3) detection of the dye in the elutant from an activated carbon sampler or from a grab sample of water.
Epikarst	The weathered upper surface of karst consisting of a network of fissures and cavities that can store and redistribute water into the main karst conduits.
Insurgence Feature	A surface feature that directs surface water into the karst groundwater system (i.e. sinkholes, swallet, losing and sinking streams).
Interference peak	A peak from a fluorescent dye or other compound, detected at sampling stations that is not associated with dye introduced as part of the Section 5 studies.
Karst	A three-dimensional landscape underlain by soluble rocks and having appreciable groundwater flow through solutionally enlarged openings (internal drainage) in the rock.
Karst Conduit	A tubular opening created by dissolution of the bedrock, which carries, can carry, or has carried water flow.
Karst Groundwater System	Includes water in both the saturated and unsaturated zones, the conduits through which the water flows and the springs at which groundwater is discharged.
Karst Valley	A valley that is like an ordinary valley on the upper slopes, but has sinkholes in the bottom draining it. The sinkholes are often aligned along the valley bottom.
Karst Window	For this study, a karst window is a sinkhole that provided limited access to a submerged karst conduit.
Loess	Calcareous silt associated with windblown dust of Pleistocene age.

Losing Stream	A surface stream from which a portion of the flow enters into a subterranean groundwater system.
Recharge Area	The land surface that contributes at least some water under some flow conditions to a particular karst feature.
Resurgence Feature	Discrete opening(s) in the bedrock where water is discharged to the earth's surface (i.e. springs, seeps, and gaining streams).
Relevant Karst	The relevant karst is the portion of karst within the I-69 Section 5 corridor and associated areas outside of the corridor; that has been demonstrated to have corridor-derived water passing through it; or is linked by logical inference based on the best available geographic, geologic, and hydrologic data, including the Tier 2 investigation. It does not include areas outside the corridor that contribute water to the corridor.
Sampling Station	Sampling stations for this project generally consisted of two anchored carbon packets in water flow at a spring, stream or pool. GPS locations were obtained and the station marked with identifying flagging. Grab samples of water would generally be collected at the sampling stations.
Simpson Chapel Karst	The portion of relevant karst from the north side of the Beanblossom Creek valley to just south of Chambers Pike in Monroe County, Indiana.
Sinking Stream	A stream that leaves the surface and enters into a subterranean groundwater system.
Sinkhole	A natural, closed depression in the surface of the earth which recharges groundwater (internal drainage). All land draining into a sinkhole is part of the sinkhole. The boundaries of sinkholes with surface expression in Section 5 were mapped based on 2-foot contour data which were derived from 2010 LiDAR data along with field checking of sink points (swallets).
Spring	A discrete point for water discharging from a karst groundwater system. Springs have discernable channels that may carry perennial flow or only flow as storm response.

Swallet	The location where a stream sinks underground, often associated with a stream flowing into a sinkhole or cave entrance.
Karst Flowpath	Groundwater flow through a karst conduit within a karst groundwater system.

Land Use Terms

The following land use terms used for relevance to karst within Section 5 and are based upon a consolidation of the land use terms used in other Tier 2 documents.

Agricultural	Includes row crops, pasture, orchards, groves, nurseries, specialty crops, and agricultural operations.
Nonresidential/Industrial	Includes commercial and industrial developments, churches, and cemeteries.
Planned Development	Ranges from parcels with approved site plans to areas targeted by local comprehensive plans to absorb future residential or commercial growth. Specific sites of planned development were identified during the coordination process with planners from the City of Bloomington and Monroe County and placed in the project GIS. This development is anticipated to occur independent of the proposed project.
Public and Institutional	Public use and institutional land uses include schools, libraries, soccer fields, parks, hospitals, fire and police stations, communally owned civic facilities (Masonic lodges, rotary clubs, etc.) or other public facilities.
Mines/Quarries	Includes areas of extractive mining activities (but not reclaimed mine areas).
Residential	Includes single-family, multi-family, and mobile home parks.
Water	Includes surface hydrologic features such as streams, rivers, lakes, reservoirs, and ponds.
Transportation, Utilities, and Communications	Includes infrastructure such as roads, road right-of-ways, railroads, utility right-of-ways, and power substations.
Upland/Wetland Habitat	Includes wetland and upland habitat ranging from forested to herbaceous cover.

Appendix GG

USFWS Comments on the Section 5 Mitigation Tour Summary

From: Robin_McWilliams@fws.gov
Sent: Wednesday, October 17, 2012 11:30 AM
To: Robin_McWilliams@fws.gov
Cc: Deborah.D.Snyder@usace.army.mil; Townsend, Daniel; Gebien.Melissa@epamail.epa.gov; JRANDOLP@idem.IN.gov; laszewski.virginia@epa.gov; lhilden@indot.IN.gov; MBuffington@dnr.IN.gov; michelle.allen@dot.gov; SFlum@indot.IN.gov; Cervone, Tom
Subject: Re: I-69 Section 5 Mitigation - Agency Tour Meeting Summary
Attachments: Section 5 Mitigation tour comments 9-13-2012 rem.pdf

Dear People,

I just realized that there was a typo in my Mitigation Tour comments distributed on September 17, 2012. Page 3 under the discussion of Victor Pike, 3rd sentence, should say "...sedimentation is most likely **not** an issue."

Sorry for any confusion.

Robin

Robin McWilliams-Munson

New Work Schedule:
M,T 7:30 - 3:00
W, R 8:30 - 3:00 telework
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September 13, 2012

Daniel Townsend
Bernardin Lochmueller & Associates, Inc.
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Dear Mr. Townsend:

This letter is in response to your email dated August 20, 2012 requesting comments on the summary notes for the two-day Section 5 mitigation tour held on July 24-25, 2012. Please find site-specific comments for several of the proposed mitigation properties below. If no comments are provided for a certain site then we agree the site is acceptable for Indiana bat forest mitigation. Keep in mind that the U.S. Fish and Wildlife Service (USFWS) is reviewing each site for its potential to provide suitable roosting and foraging habitat for the Indiana bat. While all of the sites provide some ecological benefit by being restored and/or preserved, not all sites are appropriate to be considered as mitigation for impacts to Indiana bat habitat.

Waverly Bog

We agree this site is appropriate for Indiana bat forest mitigation. Although the site is physically in Section 6, its proximity to a known Indiana bat maternity colony, unique habitat, and the threat of development make the property a good candidate for mitigation. We concur that mitigation credit for this property can be given for Section 5 of the project and in return, once Section 6 work starts, we highly recommend that a similar amount of acreage be sought back in Section 5 (within one of the maternity colony areas) to complete the mitigation requirement in Section 6. Essentially, based on the critical timing issues associated with this site, INDOT will be "swapping" this property in Section 6 with a property in Section 5 at a later date.

Ravinia Woods

As mentioned in the notes from the agencies' tour, the USFWS has concerns about the use of the Ravinia Woods site for Indiana bat forest mitigation. The proposed site is within an area managed by the Indiana Department of Natural Resources Division of Forestry. Currently, the management of state forests in Indiana does not meet the expectations of an Indiana bat

mitigation property for the I-69 highway project. Sites protected or restored for the purpose of providing Indiana bat roosting and foraging habitat should be managed specifically for the Indiana bat including, first and foremost, the prohibiting of any tree-clearing activities. These activities have the potential to negatively affect the Indiana bat and are in direct conflict with the objective of developing forest mitigation for the bat.

Big Bend

This site is appropriate for forest mitigation. We would also support the acquisition of some of the adjacent agricultural pockets for reforestation if that is a possibility.

Maxwell Hill

We concur that this site is not appropriate for Indiana bat forest mitigation based on the property size and location along existing S.R. 37.

Little Indian Creek

After further consideration, including a closer look at the proposed Liberty Church Road interchange/overpass and access roads, we no longer feel this site provides adequate benefits to the Indiana bat in the form of forest mitigation. Although reforestation and stream improvements are warranted at this location, these habitat enhancements will most likely be off-set by the impacts incurred as a result of new construction surrounding the mitigation site. It appears that Little Indian Creek will be impacted by new road construction in several locations just a few hundred feet downstream of the planned improvements. It is assumed that local traffic using the new access roads and entering and exiting the new interstate at this location will increase and therefore create a hazardous crossing area for any bats attempting to use the newly enhanced habitat on the east side of the interstate. We do not have any issue with the water resource improvements being pursued, however the site is not suitable for Indiana bat forest mitigation.

Chambers Pike

See comments for Ravinia Woods regarding management by IDNR Division of Forestry.

Griffith

While the western portion of the property appears suitable for Indiana bat mitigation, particularly because of its proximity to other mitigation properties, the area that is slated for reforestation is less desirable due to its more isolated position between the proposed frontage road and the interstate. Reforestation efforts should be focused in larger, block areas away from the roadway, where barriers and breaks in habitat are limited. Because this small area is part of a larger parcel and only accounts for one acre of reforestation, we agree this acreage can be included as forest mitigation.

Victor Pike

We agree that this site is worth pursuing. According to our contaminants biologist, parts of Clear Creek are contaminated with PCBs. Sites with heavy sediment loads are of more concern since PCBs adhere to the sediment particles. This portion of Clear Creek has a limestone bottom and sedimentation is most likely an issue. The USFWS does not recall any discussion of contaminants related to this site therefore we suggest more information be gathered and shared with the agencies prior to finalizing the acceptance of this site. Even if the soils and sediment show some potential for PCB contamination, it may not preclude the site from being used as an Indiana bat mitigation site since we know Indiana bats already use the area and improvement to Clear Creek and the surrounding habitat could still be beneficial to the species; however, it may affect how and where "dirt work" occurs and even possibly work on the log jam that was mentioned in the notes since that could result in movement of sediment.

Leonard Springs

After additional review of information for this site, the USFWS does not feel this site is suitable for Indiana bat forest mitigation. The site is located within the city limits of Bloomington, Indiana and the nearest Indiana bat record is just over two miles west of the property, on the opposite side of the proposed new interstate. In order for Indiana bats to use this site they would have to cross the new interchange and interstate area into the more urban parts of the area. Based on current research, Indiana bats are not known to use suburban nor urban areas for foraging and/or roosting.

Switchyard Park

We concur that this site is not suitable for Indiana bat mitigation.

Bottoms

We concur with this site being removed from the list of proposed mitigation sites.

Bean Blossom

As previously discussed, reforestation efforts should be focused in large, contiguous areas away from the roadway, where barriers and breaks in habitat are limited. The eastern portion of the site will preserve existing habitat along Bean Blossom Creek and is acceptable for forest mitigation; however, we have concerns on the suitability of the portion of the project that will be located between the interstate and Business SR 37. It appears that new access roads, and possibly a new interchange, will be constructed at this location and impact the stream and other adjacent habitat. It is unlikely that, as traffic increases and more cars are moving off and on the interstate in this area, that the pocket of habitat between the roadways will be valuable for Indiana bats. In fact, depending on the amount of roadwork and the size of the habitat gap that is

created, it may be hazardous for bats to fly back and forth in this area. We recommend that the western portion of this mitigation site not be used for Indiana bat forest mitigation.

Although several properties were not considered suitable for Indiana bat forest mitigation, that does not eliminate their potential use for water resource mitigation requirements. We understand that several new properties are currently being evaluated for mitigation opportunities, including two properties within the Bryant Creek Maternity Colony and one within the newly discovered Lamb Creek Maternity Colony. We appreciate the continued effort in focusing the Indiana bat forest mitigation within the known Indiana bat maternity colony areas as these locations will be under increasing development pressure in the coming years.

We appreciate the opportunity to comment at this stage of the mitigation planning. We look forward to continued coordination for the development of mitigation properties for Section 5 of the I-69 project. If you have any questions about our recommendations, please call Robin McWilliams Munson at (812) 334-4261 (Ext. 1207).

Sincerely yours,

Scott E. Pruitt
Field Supervisor

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